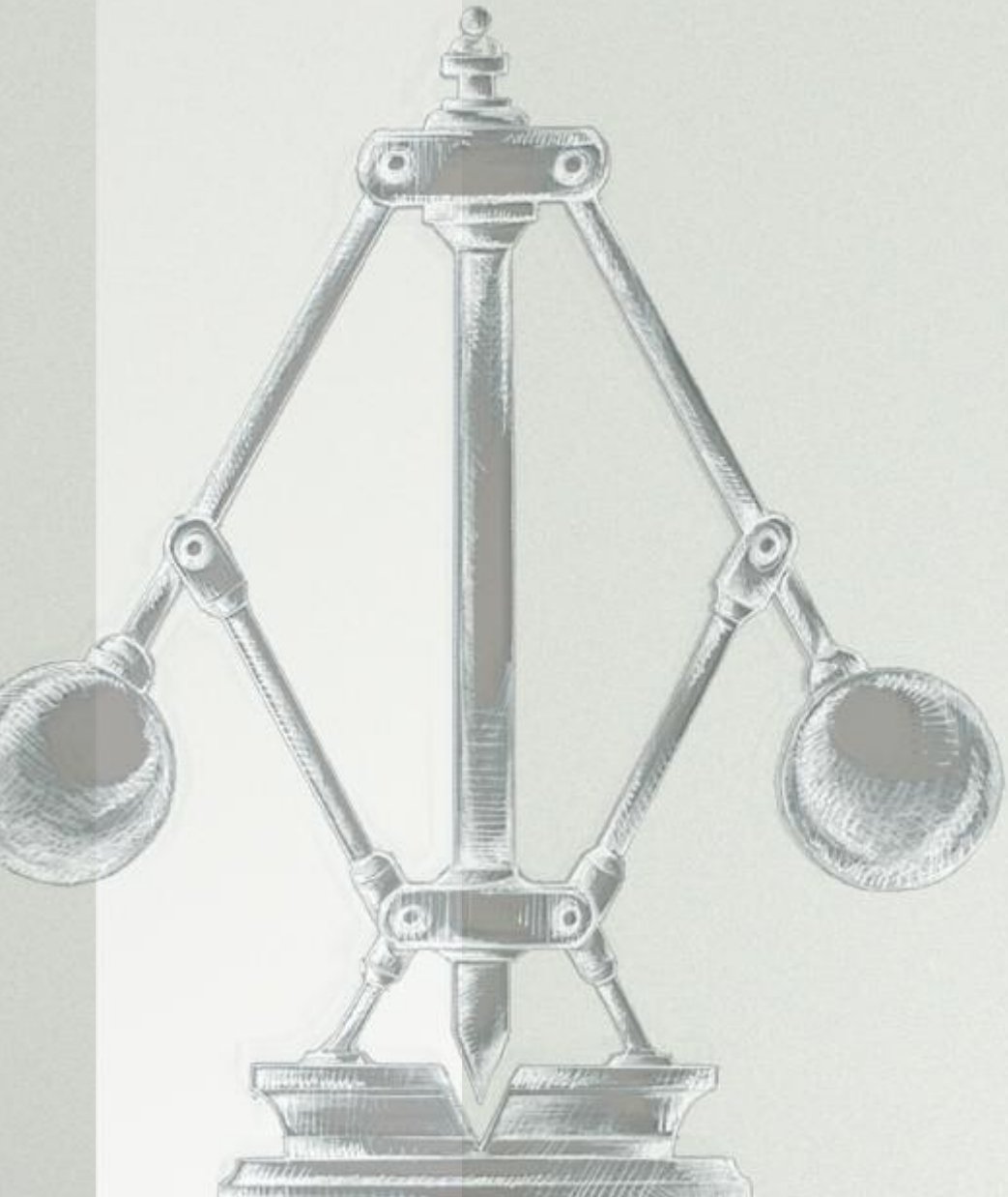
FANTINI COSMI
THE ITALIAN TECHNOLOGY

CATALOGUE

GENERAL

SHORT FORM



Fantini Cosmi S.p.A., established in 1931 by the Fantini family, is a medium-sized Italian company that became in the years a reference point in the production of electrical and electronic products for the control and regulation, maintaining its agile structure organized to incorporate market changes.

Starting from the production of industrial electrical manoeuvres devices, Fantini Cosmi S.p.A. developed important competences in many fields from the pressure, temperature, flow and level control to the remote thermoregulation systems, home automation and air conditioning.

During the years, Fantini Cosmi S.p.A. integrated electronics to the traditional mechanical technologies, which allowed to design and develop every time more sophisticated and up-dated control systems; lately caught the opportunities that mobile and web technologies markets offered.

The product range is wider and in evolution to offer the market an any time more complete communication, regulation and metering systems.

ISO9001 certification was obtained in 1997 and the UNI EN ISO 9001:2000 (Vision) certificate in 2002.

Such prestigious international rave qualifies the Fantini Cosmi products, service and the whole Company activity, organisation and processes, witnessing the day-to-day commitment to control and improve the management model to guarantee the highest possible quality level.

In 2007, with the acquisition of Aspira s.r.l., the Fantini Cosmi Industrie group, which includes three prestigious brands, Fantini Cosmi, Aspira and Fancos, was built up, thus enlarging its worldwide presence in the electrical, heating, plumbing and ventilation markets.

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ELECTRONIC LEVEL CONTROL WITH PROBES FOR CONDUCTIVE LIQUIDS

- Electronic level controllers with resistive probes for electrically conductive fluids; it is therefore unsuitable for fluids such as naphthalene, diesel and other oils, petrol and petrol-based products, etc.
- Trimmer for regulating the detection sensitivity, variable according to the type of liquid being controlled.
- Voltage between electrodes 8 V~
- Detection range from 2 to 20 KΩ adjustable.
- Cross-section of wires 1mm², maximum length 800 m, insulation 600V.
- Insulation resistance 100 MΩ.
- Dielectric strength 1,500 V for 1 minute.
- Consumption 4 VA.

CODE	POWER SUPPLY	LEVEL DIFFERENTIAL	AMBIENT OPERATING TEMPERATURE	PROTECTION LEVEL
LEVEL CONTROLS				
A03F	24 Vc.a.	Level differential adjustable according to the length of the electrodes	-10 ÷ 50 °C	IP20
A03M	230 Vc.a.			
SHUTDOWN LEVEL CONTROLS WITH MANUAL RESET				
A04F	24 Vc.a.	Level differential adjustable according to the length of the electrodes	-10 ÷ 50 °C	IP20
A04M	230 Vc.a.			

LIQUID SURVEY ELECTRODE HOLDERS PROBE FOR ELECTRONIC LEVEL CONTROLS

EA18	Probe holder for corrosive liquids in AISI 303 stainless steel. Maximum operating pressure 10 bar. Maximum temperature 160°C. Connection male G 3/8" (electrode not included). On request: stainless steel electrodes Ø 3.5 mm, length 0.5 1 2 m.
EA19	Ballasted PVC probe with electrode for conductive liquids. Suitable for wells/tanks at ambient pressure. Cable gland G 1/4" Maximum operating temperature 80°C. AISI 303
EA20	Electrode probe for corrosive liquids and high temperatures in AISI 303 stainless steel. Maximum operating pressure 35 bar. Maximum temperature 250°C. Connection male G 3/8" (electrode not included). On request: stainless steel electrodes Ø 3.5 mm, length 0.5 1 2 m.
EA21	Ballasted PVC probe with electrode for conductive liquids. Suitable for wells at ambient pressure. Maximum temperature 50°C. Cable length 6 metres (electrode included in the probe): AISI 316 stainless steel electrode

ACCESSORIES ELECTRODES

2013347	Stainless steel electrode - 1mt. Length
2013348	Stainless steel electrode - 2mt. Length

MECHANICAL LEVEL CONTROL FOR PRESSURE UP TO 16 BAR

- For liquids with specific weight from 0.9 to 1.2 kg/dm³ and viscosity below 38 mm²/s.
- Die-cast aluminium waterproof enclosure.
- Teflon-coated cast iron body.
- Internal parts in contact with the liquid: AISI 316 L stainless steel.
- Stainless steel AISI 316 teflon covered float.
- Two mercury bulb switches for high temperatures.
- Protection level IP54.
- Switch contact rating 5A 230V AC-1
- Maximum liquid temperature 200°C.

CODE	LEVEL DIFFERENTIAL (IN FUNZIONE DELL' ASTA MONTATA)	MAXIMUM OPERATING PRESSURE	CONNECTION	STORAGE AND TRANSPORT AMBIENT TEMPERATURE
FLANGE CONNECTION WITH FLOAT IN VIEW				
A41A	25 ÷ 50 mm	16 bar	flange	-25 ÷ 60 °C
	25 ÷ 75 mm			
A41B	55 ÷ 210 mm	16 bar	flange	-25 ÷ 60 °C
	65 ÷ 305 mm			
	95 ÷ 370 mm			
	140 ÷ 570 mm			
CONNECTION WITH FEMALE G1 UNIONS				
A42A	15 ÷ 50 mm	16 bar	threaded GC1	-25 ÷ 60 °C

THREE-POLE FLOAT SWITCH FOR OPEN TANKS

- Operation at atmospheric pressure.
- Side fixing bracket can be mounted on the left or right of the instrument.
- Ground lead and two cable glands G 1/2.
- Cover in shock-proof thermoplastic.
- Metal parts in iridium zinc steel.
- Moplen float.
- Counterweights coated in shock-proof, acid-resistant thermoplastic.
- Nylon rope to adjust level differentials.
- Direct control of the pump.
- Emptying or filling function.
- With single-phase motor only two poles are connected.
- Switch contact rating 415V~ 20(9)A.

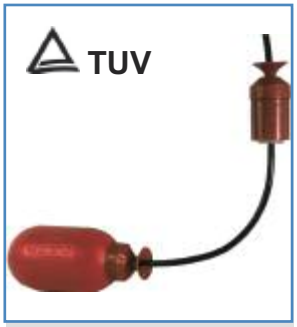
CODE	LEVEL DIFFERENTIAL	LENGTH OF NYLON ROPE	MAXIMUM LIQUID TEMPERATURE	STORAGE AND TRANSPORT AMBIENT TEMPERATURE	PROTECTION LEVEL
A70	50 ÷ 750 mm	1 mt	50° C	-25 ÷ 60 °C	IP40

SUBMERSED LEVEL REGULATOR FOR SEWAGE

- Moplen outer body pressure-blown in one piece
- Internal weight to establish the point of rotation (barycentre) next to the cable inlet.
- None hygroscopic closed cell polyurethane is injected into the casing expelling all the air, sealing the control and encasing the switch.
- Electric switch with self-cleaning multiple contacts to control the coil of the pump contactor, not suitable for direct control of the motor.
- Electric cable type A05-VVF-RF 60 section 3x1 mm^2 for industrial water
- Switch contact rating 10(4)A 250 Vac
- ⧈ double insulation.
- Test class: II.

CODE	CABLE LENGHT	MAXIMUM IMMERSION PRESSURE	MAXIMUM LIQUID TEMPERATURE	STORAGE AND TRANSPORT AMBIENT TEMPERATURE	PROTECTION LEVEL
A94C	5 mt	10 bar	60° C	-25 ÷ 60 °C	IP68
A94D	15 mt	10 bar	60° C	-25 ÷ 60 °C	IP68

SEALED FLOAT SWITCH FOR OPEN TANKS



- Sealed outer chamber in pressure-blown moplen, resistant to chemical agents and shock-proof.
- Sealed inner chamber.
- Electric device operating ball in lead.
- Counterweight with adjustable position for variation in level differential
- Moplen cable gland die-cast onto the electric cable.
- Electric cable type AØ5VV-F 3x1 RF60 CEI-UNEL 35746.
- Switch contact rating 10(4)A 250 Vc.a.
- ⧈ double insulation.
- Test class: II

CODE	CABLE LENGHT	DIFFERENTIAL LEVEL	MAXIMUM LIQUID TEMPERATURE	STORAGE AND TRANSPORT AMBIENT TEMPERATURE	PROTECTION LEVEL
A95A	3 mt	750 mm max	60° C	-25 ÷ 60 °C	IP68
A95B	10 mt	750 mm max	60° C	-25 ÷ 60 °C	IP68

FLOAT SWITCH FOR LIQUIDS IN HAZARDOUS AREAS

- To guarantee the working safety in areas with fire or explosion risks, like diesel tanks or cesspools which develop flammable or explosive vapors. It is necessary that A96 must be connected to the electric circuit via an EA30 barrier with intrinsic safety EEx-ia.
- Expanded polyurethane sealed inner chamber.
- Electric cable section 2x1 mm^2 + earth.
- Switch with self-cleaning contacts 10A-250Vac with contact closing at high level.

CODE	CABLE TYPE	CABLE LENGHT	MAXIMUM IMMERSION PRESSURE	MAXIMUM LIQUID TEMPERATURE	PROTECTION LEVEL
A96C	neoprene	5 mt	4 bar	60° C	IP68
A96D	neoprene	15 mt	4 bar	60° C	IP68
A96E*	silicone	5 mt	4 bar	130° C	IP68
A96G*	silicone	15 mt	4 bar	130° C	IP68

*These models are not suitable to control liquids in hazardous areas.

CONTROL UNIT WITH ACTIVE INTRINSICALLY SAFETY BARRIER PROTECTION EEX-IA IIC

CODE	SUPPLY VOLTAGE	INPUT (S) FROM HAZARDOUS AREA	OUTPUT (S) TOWARDS SAFE AREA	STORAGE AND TRANSPORT AMBIENT TEMPERATURE
EA31M	230V-50Hz	Voltage free NA/NC unprotected contacts	2 relays with 1 switching contact 250V-2.5A 100VA	-25 ÷ 60 °C
EA32F	24Vc.c.			

SUBMERSED LEVEL REGULATOR FOR SEWAGE

- Sealed-tight submersed level regulator (max. depth: 100 m). Unaffected by humidity and moisture, with mercury-free switch.
- Designed to control directly small single-acting pumps and to control the level of water for general use, waste water, alkaline or acid water solutions with whatever density.
- Internal sealed-tight casing housing the electric equipment.
- To control a pump 2 level regulators are required: one for the minimum and one for the maximum level.
- To provide indication for minimum or maximum level only, only one regulator can be used.
- 2 position double-pole switch.
- Switch contact rating 10A(4)250Va.c.
- ⧈ Double insulation.

CODE	CABLE LENGHT	CABLE	MAXIMUM IMMERSION PRESSURE	MAXIMUM LIQUID TEMPERATURE	PROTECTION LEVEL
A97A3	3 mt	PVC	10 bar	80 °C	IP68
A97A5	5 mt	PVC	10 bar	80 °C	IP68
A97A15	15 mt	PVC	10 bar	80 °C	IP68
A97B3	3 mt	NEOPRENE	10 bar	80 °C	IP68
A97B5	5 mt	NEOPRENE	10 bar	80 °C	IP68
A97B15	15 mt	NEOPRENE	10 bar	80 °C	IP68

On request: 10, 20, 25 mt cable length

MAGNETIC LEVEL CONTROL WITH FLANGE CONNECTION

- Operation by repulsion of two permanently opposed magnets.
- Suitable for liquids with specific weight from 0.7 to 1.1 kg/dm^3.
- UNI 2223 - DIN32 - PN6 flange connection.
- Stamped stainless steel case.
- Float and connection flange in stainless steel.
- Connection outlet with brass cable gland G3/8.
- Storage and transport ambient temperature -25 ÷ 70°C.

CODE	LEVEL DIFFEREN-TIAL mm	MAXIMUM PRESSURE	MAXIMUM LIQUID TEMPERATURE	TROPICALIZATION	CONTACT RATING	PROTECTION LEVEL
AD22	25 ÷ 175	6 bar	150 °C	NO	10A(3)250V~	IP54
AD23*	20 ÷ 180	6 bar	150 °C	NO	15A(10)250V~	IP54
AD23A*	20 ÷ 180	6 bar	150 °C	Yes (teflon-coated)	15A(10)250V~	IP54

* On request 16 bar with 14 mm thick flange

MAGNETIC LEVEL CONTROL WITH THREADED CONNECTION

- Operation with magnetic action (by repulsion with permanently opposed magnets).
- Suitable for liquids with specific weight from 0.9 to 1.1 kg/dm^3.
- Shock-proof thermoplastic case with self-retaining screws.
- Blade in stainless steel AISI 304 Ø 38x115 (AD52).
- Blade in non-toxic thermoplastic resin Ø 38x70 (AD52P).
- Choice between two fixed level differentials.
- Brass body.
- Switch contact rating 250V~ 10(3)A.
- Maximum temperature of controlled liquid 100°C, for control of drinking water: 85°C max recommended.

CODE	BLADE	LEVEL DIFFERENTIAL	MAXIMUM OPERATING PRESSURE	CONNECTION	PROTECTION LEVEL
AD52	stainless steel	20 ÷ 55 mm	10 bar	G1 1/4	IP54
AD52P*	thermo-plastic	20 ÷ 55 mm	10 bar	G1 1/4	IP54

*On request, With G 1" male connection and float in non toxic thermoplastic resin Ø30X100

BLADED LEVEL CONTROL FOR DUSTS AND GRANULES

- A synchronous motor rotates a 4-blade propeller: when material hampers rotation of the propeller, the torque that develops acts on a microswitch that opens or closes the electric circuit.
- For controlling materials (granules or dusts) with specific weight of around 0.7 kg/dm^3.
- Flange connection, with both vertical and horizontal mounting.
- Aluminium case.
- Stainless steel 4-blade propeller .
- Connection outlets with cable gland G1/2.
- Switch contact rating 250V~ 10(3)A.
- Power supply 230Vc.a.

CODE	LEVEL DIFFERENTIAL	OPERATING TEMPERATURE	STORAGE AND TRANSPORT AMBIENT TEMPERATURE	PROTECTION LEVEL
ASE	50 fixed	-20 ÷ 70 °C	-25 ÷ 80 °C	IP54

DIAPHRAGM LEVEL CONTROL FOR DUSTS AND GRANULES

- Operation with elastic diaphragm in contact with the material.
- To control materials (granules or dusts) with specific weight of around 0.7 kg/dm^3.
- Flange connection.
- Aluminium case.
- Nitrile rubber diaphragm.
- Connection outlets with cable gland G 1/2.
- Operating temperature -20 ÷ 70°C.
- Storage and transport ambient temperature -25 ÷ 70°C.
- Switch contact rating 250V~ 10(3)A.

CODE	LEVEL DIFFERENTIAL RUN AND STOP	LEVEL DIFFERENTIAL RELEASE AND START	LEVEL DIFFERENTIAL REGULATION AND CHANGE	OPERATING TEMPERATURE	NUMB. OF MICRO	PROTEC-TION LEVEL
ASM2	50 ÷ 100 mm	30 ÷ 50 mm	20 ÷ 50 mm	-20 ÷ 70°C	2	IP54

PRESSURE SWITCH WITH NON-ADJUSTABLE DIFFERENTIAL AND SHUTDOWN PRESSURE SWITCH

- Sensitive element with electrically welded stainless steel diaphragm.
- Parts in contact with the liquid in stainless steel.
- Base, cover and knob in shock-proof, self-extinguishing thermoplastic V0.
- Female G 1/4 fitting.
- Pressure switch body admissibile temperature -35 ÷ 80 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).
- I.S.P.E.S.L. approval only for B01BM.
- Switch contact rating 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	MAX PRESSURE OF SENSITIVE ELEMENT	MAX TEM. OF CONTROLLED LIQUID	PROTECTION LEVEL
PRESSURE SWITCHES WITH KNOB (EXTERNAL AND WITH INTERNAL REGULATION)					
B01A	0,7 ÷ 3 bar	0,3 ÷ 0,5 bar	6 bar	120°C	IP40
B01B	2 ÷ 5,5 bar	0,5 ÷ 0,7 bar	7 bar	120°C	IP40
B01C	3 ÷ 7 bar	0,5 ÷ 0,7 bar	9 bar	120°C	IP40
B01D	4 ÷ 15 bar	0,8 ÷ 1,2 bar	18 bar	120°C	IP40
SHUTDOWN PRESSURE SWITCHES WITH MANUAL RESET					
B01AM	0,7 ÷ 3 bar		6 bar	120°C	IP40
B01BM	2 ÷ 5,5 bar		7 bar	120°C	IP40
B01CM	3 ÷ 7 bar		9 bar	120°C	IP40
B01DM	4 ÷ 15 bar		18 bar	120°C	IP40

* The differential is subtracted from the scale value

HYDROSTATS

IP65 waterproof execution B11ANY

- Sensitive element with stainless steel diaphragm.
- G 1/4 female fitting to the pressure switch element.
- Metallic frame.
- Shock-proof thermoplastic cover.
- Switch contact rating 380/415V~ 16(6)A.
- Maximum temperature of controlled liquid 120°C.
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).

CODE	RANGE	DIFFERENTIAL *	MAXIMUM PRESSURE OF SENSITIVE ELEMENT	PROTECTION LEVEL
B11AN	0,15 ÷ 1 bar	0,1 bar fixed	20 bar	IP40

* The differential is subtracted from the scale value

VACUUM PRESSURE SWITCH

IP65 waterproof execution B12...NY

- Sensitive element with stainless steel diaphragm.
- Metallic frame.
- Shock-proof thermoplastic cover.
- Switch contact rating 380/415V~ 16(6)A.
- Maximum temperature of controlled liquid 120°C.
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).

CODE	RANGE	DIFFERENTIAL *	MAXIMUM PRESSURE OF SENSITIVE ELEMENT	CONNECTION	PROTECTION LEVEL
B12AN	-0,82 ÷ 0 bar	0,1 bar fixed	2,5 bar	G 1/4 female	IP40
B12BN	0,2 ÷ 2 bar	0,1 ÷ 0,5 bar	4 bar	G 1/4 female	IP40

* The differential is subtracted from the scale value

PRESSURE SWITCH FOR PRESSURE UP TO 28 BAR

IP65 waterproof execution IP65 B12...NY

- Sensitive element with stainless steel diaphragm.
- Metal frame.
- Shock-proof thermoplastic cover.
- Maximum temperature of controlled liquid 120°C.
- Switch contact rating: 380/415V~ 16(6)A
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).

CODE	RANGE	ADJUSTABLE DIFFERENTIAL*	MAX. PRESSURE OF SENSITIVE ELEMENT	CONNECTION	PROTECTION LEVEL
B12CN	-0,2 ÷ 8 bar	0,6 ÷ 3 bar	9 bar	G 1/4 female	IP40
B12DN	5 ÷ 16 bar	1 ÷ 3,5 bar	18 bar	G 1/4 female	IP40
B12EN	8 ÷ 28 bar	2 ÷ 6 bar	32 bar	G 1/4 female	IP40
B12CRN	-0,2 ÷ 8 bar	0,6 ÷ 3 bar	9 bar	G 1/4 SAE	IP40
B12ERN	8 ÷ 28 bar	2 ÷ 6 bar	32 bar	G 1/4 SAE	IP40

* The differential is subtracted from the scale value

PRESSURE SWITCH FOR PRESSURE UP TO 300 BAR

IP65 waterproof execution IP65 B12...NY

- Sensitive element with stainless steel diaphragm.
- Metal frame.
- Shock-proof thermoplastic cover.
- Maximum temperature of controlled liquid 80°C.
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).
- Switch contact rating: 380/415V~ 16(6)A.

CODE	RANGE	ADJUSTABLE DIFFERENTIAL*	MAX. PRESSURE OF SENSITIVE ELEMENT	CONNECTION	PROTECTION LEVEL
B12FN	12 ÷ 50 bar	6 ÷ 15 bar	60 bar	G 1/4 male	IP40
B12GN	25 ÷ 150 bar	12 ÷ 40 bar	180 bar	G 1/4 male	IP40
B12HN	60 ÷ 300 bar	40 ÷ 80 bar	350 bar	G 1/4 male	IP40

* The differential is subtracted from the scale value

SHUTDOWN PRESSURE SWITCH WITH MANUAL RESET

IP65 waterproof execution IP65 B12...NY

- Sensitive element with stainless steel diaphragm
- Calibration screw designed to be sealed after testing.
- Metal frame, shock-proof thermoplastic cover.
- Maximum temperature of controlled liquid 120°C.
- I.S.P.E.S.L. approval.
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).
- Switch contact rating: 380/415V~ 16(6)A.

CODE	RANGE	DIFFERENTIAL *	MAX. PRESSURE OF SENSITIVE ELEMENT	CONNECTION	PROTECTION LEVEL
B12MN	1 ÷ 5 bar	0,6 bar fixed	9 bar	G 1/4 female	IP40

* The differential is subtracted from the scale value

BELLOWS PRESSURE SWITCH WITH LOW DIFFERENTIAL

IP65 waterproof execution B13...NY

- Sensitive element with metal bellows, not suitable for liquids that corrode copper alloys.
- Metal frame, shock-proof thermoplastic cover.
- Maximum temperature of controlled liquid 100°C.
- Pressure switch body admissibile temperature -35 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).
- Switch contact rating: 380/415V~ 16(6)A.

CODE	RANGE	ADJUSTABLE DIFFERENTIAL*	MAX. PRESSURE OF SENSITIVE ELEMENT	CONNECTION	PROTECTION LEVEL
B13BN	0,3 ÷ 4 bar	0,1 ÷ 0,5 bar	6 bar	G 1/4 male	IP40
FOR ALL FLUIDS WITH VISCOSITY UP TO 3°ENGLER					
B13CN	1 ÷ 10 bar	0,3 ÷ 1,5 bar	16 bar	G 1/4 male	IP40

* The differential is subtracted from the scale value.

THREE-POLE PRESSURE SWITCH

- Suitable for liquids (gas or liquids) chemically compatible with the sensitive element with friction (NBR) diaphragm.
- Shock-proof thermoplastic cover.
- Metal parts in iridium zinc steel.
- Connections outlet with 2 cable glands G 1/2 in shock-proof thermoplastic
- Maximum temperature of controlled liquid 90°C.
- Pressure switch body admissibile temperature -15 ÷ 60 °C (the storage and transport temperature corresponds to the pressure switch body admissible temperature).
- Switch contact rating: 415V~ 20(9)A.

CODE	RANGE (BREAK PRESSURE)	MINIMUM DIFFERENTIAL		MAXIMUM DIFFERENTIAL	MAX. PRESSURE OF SENSITIVE ELEMENT	PROTECTION LEVEL
		BOTTOM OF RANGE	TOP OF RANGE			
B70A	0,5 ÷ 7 bar	+0,8 bar	+1,8 bar	+3,5 bar	12 bar	IP40

* The differential is subtracted from the scale value.

TWO-POLE PRESSURE SWITCH

- Pressure switches suitable to control directly electric motors of pumps, compressors or domestic or industrial surge tank units.
- Suitable for fluids (gas or liquids) chemically compatible with the friction diaphragm.
- Direct installation on line section.
- It opens contacts when pressure rises.
- The two-pole contact allows to control, without contactor, electric motors up to 3A.
- Friction sensing element diaphragm.
- Adjustable differential.
- Female G 1/4 connection.
- Cover in antishock thermoplastic material.
- Steel metallic parts.
- Ground clamp.
- Connection outputs with 2 fairleads.
- Max. fluid temperature: 70°C.
- Admitted pressure switch body temperature: -15 ÷ 60°C.
- Storage and transport temperature: -35÷ 60°C
- Switch contact rating: 380/415V~ 12(3)A.

CODE	RANGE (BREAK PRESSURE)	DIFFERENTIAL				MAX. PRESSURE OF SENSITIVE ELEMENT	PROTECTION LEVEL
		LOW RANGE		FULL RANGE			
		MIN	MAX	MIN	MAX		
B71	1,5 ÷ 4,5 bar	1,0 ÷ 2,1 bar		1,2 ÷ 2,3 bar		7 bar	IP20

* The differential is subtracted from the scale value.

STRAP-ON PIPE THERMOSTAT

- Thermostat to control water temperature in heating pipe installations; for example to switch-off the circulation pump when the water temperature has dropped or to start the A.H.U. when the water temperature reaches the set value.
- Liquid expansion operation.
- Sensitive element with stainless steel diaphragm, support with connection for fixing to the pipe with elastic metal mesh band (included).
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- Thermostat body admissible temperature -35 ÷ 120°C (the storage and transport temperature corresponds to the thermostat body admissible temperature).
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	CALIBRATION ACCURACY	MAXIMUM BULB TEMPERATURE	PROTECTION LEVEL
C01A	20 ÷ 90 °C	8 K	± 3 °C	120 °C	IP40

* The differential is subtracted from the Range value. The differential values refer to a thermal gradient of 6K/hour.

REAR PANEL THERMOSTAT WITH CAPILLARY AND BULB

- Liquid expansion operation.
- The bulb with capillary can be mounted at a distance and provided with seal caps or copper sheaths with GC 1/2 connection.
- Sensitive element with stainless steel diaphragm.
- Copper bulb and capillary, tinned for type C02C and C02D.
- Screws for rear panel fixing for C02C and C02D.
- Faston connections male 6.3 mm.
- I.S.P.E.S.L. approval for C02A3.
- Knob and ring to be bought separately. the storage and transport temperature corresponds to the thermostat body admissible temperature
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	CALIBRATION ACCURACY	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	MAXIMUM BULB TEMP.	CAPILLARY LENGTH
C02A3	10 ÷ 90 °C	6 ±1 K	± 3 °C	-35 ÷ 120 °C	150 °C	1 mt
C02B3	50 ÷ 300 °C	8 ±2 K	± 3 °C	-35 ÷ 120 °C	310 °C	1,5 mt
C02C2	-20 ÷ 40 °C	2 ±0,5 K	± 2 °C	-35 ÷ 60 °C	80 °C	1,5 mt
C02D2	-35 ÷ 20 °C	2 ±0,5 K	± 2 °C	-35 ÷ 50 °C	80 °C	1,5 mt
C02E3	40 ÷ 120 °C	6 ± 2 K	± 3 °C	-35 ÷ 120 °C	150 °C	1 mt
C02F2	50 ÷ 320 °C	10 ±2 K	± 3 °C	-35 ÷ 150 °C	330 °C	1 mt

*The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour in liquid and 5K/hour in air.

IMMERSION THERMOSTAT FOR DIRECT MOUNTING

- Liquid expansion operation.
- Direct immersion mounting of the bulb via a threaded sheath GC 1/2 PN10 (included).
- Sensitive element with stainless steel diaphragm.
- Copper bulb and capillary.
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- I.S.P.E.S.L. approval for C03A3.
- Thermostat body admissible temperature -35 ÷ 120°C (the storage and transport temperature corresponds to the thermostat body admissible temperature).
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	ACCURACY	MAXIMUM BULB TEMPERATURE	PROTECTION LEVEL
C03A3	10 ÷ 90 °C	6 ± 1 K	± 3 °C	150 °C	IP40
C03B3	40 ÷ 120 °C	6 ± 1 K	± 3 °C	150 °C	IP40

* The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour.

THERMOSTAT WITH CAPILLARY AND BULB FOR REMOTE MOUNTING

IP65 waterproof execution C04..2Y

- Liquid expansion operation.
- Wall mounting of thermostat body.
- The bulb with capillary can be mounted at a distance and provided with seal caps or copper sheath with GC 1/2 connection.
- Sensitive element with stainless steel diaphragm.
- Copper bulb and capillary, tinned for type C04C and C04D.
- I.S.P.E.S.L. approval for C04A2
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- Protection level IP40.
- The storage and transport temperature corresponds to the thermostat body admissible temperature.
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	CALIBRATION ACCURACY	MAX BULB TEMP.	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	CAPILLARY LENGTH
C04A3	10 ÷ 90 °C	6 ± 1 K	± 3 °C	150 °C	-35 ÷ 120 °C	1 mt
C04B3	50 ÷ 300 °C	8 ± 2 K	± 3 °C	310 °C	-35 ÷ 120 °C	1,5 mt
C04C2	-20 ÷ 40 °C	2 ± 0,5 K	± 2 °C	80 °C	-35 ÷ 60 °C	1,5 mt
C04D2	-35 ÷ 20 °C	2 ± 0,5 K	± 2 °C	80 °C	-35 ÷ 50 °C	1,5 mt
C04E3	40 ÷ 120 °C	6 ± 2 K	± 3 °C	150 °C	-35 ÷ 120 °C	1 mt

*The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour in liquid and 5K/hour in air.

POSITIVE SAFETY SHUTDOWN IMMERSION THERMOSTAT

- Liquid expansion operation.
- Direct immersion mounting of the bulb via threaded sheath GC 1/2 (included).
- Sensitive element with stainless steel diaphragm.
- Copper bulb and capillary.
- Copper sheath with GC 1/2 PN10 connection
- Base and cover in shock-proof self-extinguishing thermoplastic V0.
- Compliance with the requirements established in chapter R.3.B. of the applicative technical specifications of Ministerial Decree 1 December 1975.
- I.S.P.E.S.L. approval for C06A3M.
- The storage and transport temperature corresponds to the thermostat body admissible temperature.
- Switch contact rating: 250V~ 10(2,5)A.

CODE	CUT-OFF ACTION	CUT-OFF TOLERANCE	ADMISSIBLE THERMOSTAT BODY TEMPERATURE	MAXIMUM BULB TEMPERATURE	PROTECTION LEVEL
C06A3M	100 °C	+0 / -6 °C	-35 ÷ 120 °C	130 °C	IP40
C06B3M	90 °C	+0 / -6 °C	-35 ÷ 120 °C	130 °C	IP40

POSITIVE SAFETY SHUTDOWN AND REGULATION IMMERSION BITHERMOSTAT, FOR DIRECT MOUNTING

- Liquid expansion operation.
- Direct immersion mounting of the bulb via threaded sheath Gc1/2 (included).
- The bi-thermostat is composed of a C03A and a C06AM in a single cover and one sheath.
- Sensitive element with stainless steel diaphragm.
- Copper sheath with GC 1/2 PN10 connection
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- Compliance with the requirements established in chapter R.3.B. of the applicative technical specifications of Ministerial Decree 1 December 1975.
- I.S.P.E.S.L. approval.
- Thermostat body admissible temperature -35 ÷ 120°C (the storage and transport temperature corresponds to the thermostat body admissible temperature).
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	CUT-OFF ACTION	CUT-OFF TOLERANCE	MAXIMUM BULB TEMPERATURE	PROTECTION LEVEL
C07A3M	10÷90 °C	6 ± 1 K	100 °C	+0 / -6 K	130 °C	IP40

* The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour

IMMERSION THERMOSTAT WITH METALLIC STEM

- Suitable for heating installations, furnaces etc.
- Bimetal operation.
- Immersion mounting with brass sheath with connection GC 3/8-PN10 (included).
- Bimetal sensitive element.
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- The storage and transport temperature corresponds to the thermostat body admissible temperature.
- Switch contact rating: 250V~ 10(2,5)A.

CODE	RANGE	DIFFERENTIAL *	CALIBRATION ACCURACY	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	PROTECTION LEVEL
C08A	0 ÷ 110 °C	6 ± 1 K	± 3 °C	-35 ÷ 120 °C	IP40
C08B	90 ÷ 200 °C	6 ± 2 K	± 3 °C	-35 ÷ 120 °C	IP40

*The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour.

POSITIVE SAFETY REAR PANEL SHUTDOWN THERMOSTAT AND WITH CAPILLARY AND BULB, FOR REMOTE MOUNTING

- Liquid expansion operation.
- Rear panel mounted thermostat body.
- The bulb with capillary can be mounted at a distance and provided with seal caps or copper sheaths with GC 1/2 Pn10 connection.
- Sensitive element with electrically welded stainless steel diaphragm.
- Copper bulb and capillary.
- Base in shock-proof self-extinguishing thermoplastic V0.
- Compliance with the requirements established in chapter R.3.B. of the applicative technical specifications of
- Ministerial Decree 1 December 1975.
- I.S.P.E.S.L. approval.
- The storage and transport temperature corresponds to the thermostat body admissible temperature
- Switch contact rating: 250V~ 10(2,5)A.
- Capillary length 1 mt.

CODE	CUT-OFF ACTION	CUT-OFF TOLERANCE	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	MAXIMUM BULB TEMPERATURE	PROTECTION LEVEL
C09A2M	100 °C	+0 / -6 °C	-35 ÷ 120 °C	120 °C	IP40

THERMOSTAT WITH SPIRAL CAPILLARY FOR INDUSTRIAL AMBIENTS IP65 waterproof execution C10..2Y

- Liquid expansion operation, the ambient temperature is detected by the spiral capillary.
- Wall mounting.
- Sensitive element with stainless steel diaphragm.
- Tinned copper spiral capillary.
- Base, cover and knob in shock-proof self-extinguishing thermoplastic V0.
- The storage and transport temperature corresponds to the thermostat body admissible temperature.
- Switch contact rating: 250V~ 10(2,5)A.
- Protection level IP40.

CODE	RANGE	DIFFERENTIAL *	CALIBRATION ACCURACY	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	MAXIMUM BULB TEMPERATURE
C10A2	0 ÷ 60 °C	2 ± 0,5 K	± 2 °C	-10 ÷ 80 °C	80 °C
C10B2	-20 ÷ 40 °C	2 ± 0,5 K	± 2 °C	-20 ÷ 60 °C	60 °C
C10C2	-35 ÷ 20 °C	2 ± 0,5 K	± 2 °C	-35 ÷ 50 °C	50 °C

* The differential is subtracted from the range value. The differential values refer to a thermal gradient of 1K/hour in liquid and 5K/hour in air.

ROOM THERMOSTAT WITH VAPOR TENSION

- Sensitive element with electrically welded stainless steel capsule containing saturated vapour.
- Vapour pressure operation.
- Base, cover and knob in thermoplastic.
- Connection to the user with only 2 wires.
- Numerous signal and control options.
- Compliance with standards CEI EN 60730-1
- Switch contact rating: 10(2,5)A 250 Va.c.
- The storage and transport temperature corresponds to the thermostat body admissible temperature

CODE	RANGE	DIFFERENTIAL *	THERMOSTAT BODY ADMISSIBLE TEMPERATURE	MAXIMUM AMBIENT TEMPERATURE	PROTECTION LEVEL
C16	10 ÷ 30 °C	0,8 K	-10 ÷ 50 °C	45 °C	IP20
C16L	WITH PILOT LIGHT				
C16I	WITH "ON-OFF" SWITCH				
C16IL	WITH "ON-OFF" SWITCH AND PILOT LIGHT				
C16EH	WITH "SUMMER-WINTER" SWITCH				
C16EHL	WITH "SUMMER-WINTER" SWITCH AND PILOT LIGHT				
TC16	Frame for mounting on: round box 60 mm, screw fixing round box with clips (not supplied), round box distance between centres 75 mm				

* The differential is subtracted from the range value. The differential values refer to a thermal gradient of 4K/hour in air.

ELECTRONIC ROOM THERMOSTAT

- Sensitive element with semiconductor sensor.
- Wall mounting
- ⧈ double insulation.
- SUMMER - WINTER - OFF switch for controlling heating or air conditioning systems.
- Red LED to indicate relay cut-in, to request heating (switch in winter position) or cooling (switch in summer position).
- Compliance with standards CEI EN 60730-1 and second parts.
- Maximum dissipated power 1VA
- Switch contact rating 6(1,5)A 250V~.
- Voltage free switching contact.
- Thermostat body admissible temperature -10 ÷ 50 °C.

CODE	RANGE	DIFFERENTIAL *	POWER SUPPLY	PROTECTION LEVEL
C40A	6 ÷ 30 °C	0,5 K	230V - 50Hz	IP20

* The differential values refer to a thermal gradient of 4K/hour in air.

3 SPEEDS ELECTRONIC ROOM THERMOSTAT FOR FAN-COILS

- Sensitive element with semiconductor sensor.
- Wall mounting.
- ⧈ double insulation.
- SUMMER - WINTER - OFF switch for controlling heating or air conditioning systems.
- Manual switch for selecting one of the three fan-coil speeds.
- Compliance with standards CEI EN 60730-1 and second parts.
- Maximum dissipated power 1VA.
- Switch contact rating 6(1,5)A 250V~.
- Voltage free switching contact.
- Thermostat body admissible temperature -10 ÷ 50 °C.

CODE	RANGE	DIFFERENTIAL *	POWER SUPPLY	PROTECTION LEVEL
C41A	6 ÷ 30 °C	0,5 K	230V - 50Hz	IP20

* The differential values refer to a thermal gradient of 4K/hour in air.

ELECTRONIC ROOM THERMOSTAT WITH BATTERIES

- Connection to the user with 2 wires.
- No modifications to the existing system
- Sensitive element with semiconductor sensor.
- Wall mounting.
- ⧈ double insulation.
- SUMMER - WINTER - OFF switch for controlling heating or air conditioning systems.
- Compliance with standards CEI EN 60730-1 and second parts.
- Switch contact rating 5(3)A 250V~.
- Supplied with 3 microstilo batteries, type AAA, 1.5 V, alkaline, long life, without connections to the power line.
- Low battery warning with intermittent beep.
- Thermostat body admissible temperature -10 ÷ 50 °C.

CODE	RANGE	DIFFERENTIAL *	POWER SUPPLY	PROTECTION LEVEL
C43	5 ÷ 30 °C	0,5 K	3 batteries AAA 1,5V	IP20

* The differential values refer to a thermal gradient of 4K/hour in air.

FLUSH MOUNTING ELECTRONIC ROOM THERMOSTAT 3 MODULES CONDUIT BOXES

- Electronic room thermostat to control heateng and air conditioning installations
- Power supply 230V-50Hz.
- Flush mounting in recessed boxes with 3 modules type 503 via 2 screws (provided).
- Operation mode: COMFORT, ECONOMY and OFF.
- Possibility to set 3 temperature levels: COMFORT, ECONOMY and OFF.
- Possibility to visualize temperature values in
- Celsius or Fahrenheit degrees.
- Wide display with graphical icons combined with frontal buttons to choose the operation modes.
- Maximum element temperature 45°C.
- SUMMER-WINTER operation mode.

CODE	TEMPERATURE SETTING RANGE	DIFFERENTIAL *	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	SWITCH CONTACT RATING
C44	2 ÷ 40 °C	0,5 K	0 ÷ 45 °C	230V-50HZ	5(3)A-250V~

* The differential values refer to a thermal gradient of 4K/hour in air.

The following plates can be fitted BTICINO Living - Living di transizione - Light - Light Tech - Axolute **VIMAR** Idea - Rondò - Plana **GEWISS** Playbus - Playbus Young **AVE** sistema 45 - Noir - Blanc - Banquise, Ave Yes **Siemens** Delta Futura Graphit **Legrand** Cross

- **C44 ANTHRACITE**
- **C44B WHITE**
- **C44C SILVER**

FLUSH MOUNTING ELECTRONIC ROOM THERMOSTAT 3 MODULES CONDUIT BOXES

- Connection to the use with 2 wires via male/female connector.
- Flush mounting in recessed boxes with 3 modules type 503 via 2 screws (provided).
- Adjustment knob with large diameter, wide range.
- Compliance with standards CEI EN 60730-1 and second parts.
- Switch contact rating 5(3)A 250V~.
- Thermostat body admissible temperature -10 ÷ 50 °C.
- ⧈ double insulation.

CODE	RANGE	DIFFERENTIAL *	POWER SUPPLY	PROTECTION LEVEL
POWER SUPPLY 230V 50HZ				
C47	5 ÷ 30 °C	0,5 K	230V - 50 Hz	IP20
WITH SUMMER - WINTER SWITCH				
C47EH	5 ÷ 30 °C	0,5 K	230V - 50 Hz	IP20
BATTERIES POWER SUPPLY WITH SUMMER - WINTER SWITCH				
C48	5 ÷ 30 °C	0,5 K	3 batteries AAA of 1,5V	IP20

* The differential values refer to a thermal gradient of 4K/hour in air.

The following plates can be fitted BTicino Light - Light Tech - Living - Living di transizione **Vimar** Plana - Eikon - Idea - Eikon Next - Rondò **Gewiss** Playbus - Playbus Young **Ave** Sistema 45 - Banquise - Yes - Noir Blanc **Siemens** Delta Futura Graphit **Legrand** Ergo - Cross - Vela

- **C47-C47EH-C48 ANTHRACITE**
- **C47B-C47EHB-C48B WHITE**
- **C47C-C48C SILVER**

The following plates can be fitted BTicino Light - Light Tech - Living - Living di transizione **Vimar** Plana - Eikon - Idea - Eikon Next - Rondò **Gewiss** Playbus - Playbus Young **Ave** Sistema 45 - Banquise - Yes - Noir Blanc **Siemens** Delta Futura Graphit **Legrand** Ergo - Cross - Vela

C50 ANTHRACITE
C50B WHITE
C50C SILVER

FLUSH MOUNTING ELECTRONIC ROOM THERMOSTAT TWO TEMPERATURES, WITH DISPLAY-3 MODULE CONDUIT BOXES

- Can be regulated for two temperature levels, comfort (day) and economy (night), with manual switching between the two modes.
- Flush mounting in recessed boxes with 3 modules type 503 with 2 screws (provided).
- ☐ double insulation.
- 3-way switch to select temperature: ECONOMY, OFF (with antifreeze protection) and COMFORT.
- Compliance with standards CEI EN 60730-1 and second parts.
- Switch contact rating 5(3)A 250V~.
- Voltage free contact switching.
- Supplied with 3 microstilo batteries, type AAA, 1.5 V, alkaline.
- Thermostat body admissible temperature -10 ÷ 50 °C.

CODE	RANGE	DIFFERENTIAL *	POWER SUPPLY	PROTECTION LEVEL
C50	8 ÷ 40 °C	0,5 K	3 batteries AAA of 1,5V	IP20
C50B	8 ÷ 40 °C	0,5 K	3 batteries AAA of 1,5V	IP20

* The differential values refer to a thermal gradient of 4K/hour in air.

CH110 WHITE
CH111 SILVER
CH112 ANTHRACITE

ELECTRONIC ROOM THERMOSTAT WITH 3 TEMPERATURES

- Room thermostat with display for temperature regulation in heating system.
- Possibility to visualize Celsius or Fahrenheit temperature values.
- Operation mode: COMFORT, ECONOMY and OFF.
- Possibility to set 3 temperature levels: COMFORT, ECONOMY e OFF.
- SUMMER-WINTER operation mode.
- Adjustable range OFF-antifrost temperature 0 ÷ 7 °C.
- Supplied with 2 microstilo batteries, type AAA, 1.5 V, alkaline
- Batteries replaceable from the front.
- Wall or diam 60mm round box fixation.
- Protection level IP20

CODE	TEMPERATURE SETTING RANGE	DIFFERENTIAL *	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	SWITCH CONTACT RATING
CH110	2 ÷ 40 °C	0,5 K	-10 ÷ 50 °C	2 batteries AAA1,5V	5(3)A 250V~

* The differential values refer to a thermal gradient of 4K/h

CH115-CH115RF WHITE
CH116-CH116RF SILVER
CH117-CH117RF ANTHRACITE

ROOM THERMOSTAT WITH BATTERIES WITH 3 TEMPERATURES

- Wide display with graphic icons combined with frontal keys to choose the operation mode.
- Controls are transmitted to the actuator CH173D, separately equipped, that communicates through radiofrequency with the CH115RF thermostat.
- Operation mode: COMFORT, ECONOMY and OFF.
- Possibility to set 3 temperature levels: COMFORT, ECONOMY e OFF.
- SUMMER-WINTER operation mode.
- Wall mounting, on a 3 module box or 60mm round box.
- Connection to the user with 2 wires.
- Compliance with standards CEI EN 60730-2-9.
- Protection level IP20

CODE	TEMPERATURE SETTING RANGE	DIFFERENTIAL *	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	SWITCH CONTACT RATING
CH115	2 ÷ 40 °C	0,5 K	-10 ÷ 50 °C	2 batteries AA1,5V	5(3)A 250V~
CH115-16	2 ÷ 40 °C	0,5 K	-10 ÷ 50 °C		16(4)A 250V~
RADIO FREQUENCY THERMOSTAT					
CH115RF	2 ÷ 40 °C	0,5 K	-10 ÷ 50 °C	2 batteries AA1,5V	
CH173D	RECEIVER, DIN RAIL MOUNTING (3 MODULES)			230Vac	5(3)A 250V~

* The differential values refer to a thermal gradient of 4K/h

ELECTRONIC ROOM THERMOSTAT FOR FAN-COILS

- Thermostat for fan-coils with 2 or 4 ducts suitable for regulating ambient temperature for both heating and cooling.
- It suitable to control one or two valves and to control a 3-speed fan-coil motor.
- **KIT CH130RR (CH130R+CH172D)** model with three manual speeds and remote-control relay.
- **KIT CH130RFR (CH130RF+CH172DRF)** model with three manual speeds and radio-frequency relay.
- **KIT CH130ARR (CH130AR+CH172D)** model with three manual+auto speeds and remote-control relay.
- **KIT CH130ARFR (CH130ARF+CH172DRF)** model with three manual+auto speeds and radio-frequency relay.
- Wide display with graphical icons combined with frontal buttons to choose the operation modes.
- Maintenance of data and of programm in case of power supply failures in the network. SUMMER - WINTER operation.
- Three operation modes (ECONOMY, COMFORT and OFF), for summer and winter setting.
- Three fan-coils speeds, which can be set manually.
- Radio signal range: 30 metres.

CODE	TEMPERATURE SETTING RANGE	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	NUM. RELAY	SWITCH CONTACT RATING
CH130R	2 ÷ 40 °C	-10 ÷ 50 °C	actuator CH172D		IP20
CH130AR	2 ÷ 40 °C	-10 ÷ 50 °C	actuator CH172D		IP20
CH130R-CH130AR ACTUATOR, DIN RAIL - 6 MODULES					
CH172D		-10 ÷ 50 °C	230Vac	5	IP00
CH172DS*		-10 ÷ 50 °C	230Vac	5	IP00

*used to control several fan-coils

CODE	TEMPERATURE SETTING RANGE	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	NUM. RELAY	SWITCH CONTACT RATING
CH130RF	2 ÷ 40 °C	-10 ÷ 50 °C	2 batteries AA 1,5V		IP20
CH130ARF	2 ÷ 40 °C	-10 ÷ 50 °C	2 batteries AA 1,5V		IP20
CH130RF-CH130AR RADIO-FREQUENCY ACTUATOR, DIN RAIL - 6 MODULES					
CH172DRF*		-10 ÷ 50 °C	230Vac	5	IP00

*used to control several fan-coils

- **CH130R-AR CH130RF-ARF WHITE**
- **CH131R-AR CH131RF-ARF SILVER**
- **CH132R-AR CH132RF-ARF ANTHRACITE**

WEEKLY PROGRAMMABLE THERMOSTAT Intellitherm C31

- Automatic programme can be adjusted.
- Six daily switching points.
- Three temperatures: comfort and saving adjustable, and antifrost fixed .
- JOLLY function to temporarily override the program for up to 99 hours, obtaining a different temperature from the set one.
- ⧈ double insulation
- Wall mounting.
- LCD display shows the low battery charge
- Cover to protect the regulation buttons.
- Switch contact rating: 5(3)A 250V~.
- Disconnection (1BU).
- Protection level IP20.

CODE	TEMPERATURE SETTING RANGE	DIFFERENTIAL	ADMISSIBLE BODY TEMPERATURE	POWER SUPPLY	SWITCH CONTACT RATING
C31	5 ÷ 40 °C	0,25 K	-10 ÷ 50 °C	3 batteries AA1,5V	5(3)A 250V~

The following plates can be fitted **BTicino** Light - Light Tech - Living - Living di transizione **Vimar** Plana - Eikon - Idea - Eikon Next - Rondò **Gewiss** Playbus - Playbus Young **Ave** Sistema 45 - Banquise - Yes - Noir Blanc **Siemens** Delta Futura Graphit **Legrand** Ergo - Cross - Vela

- **C51-C52-C53-C54 ANTHRACITE**
- **C51B-C52B-C53B-C54B WHITE**

Intellitherm C51-C52-C53-C54 FLUSH MOUNTING PROGRAMMABLE THERMOSTAT WITH SLIDING DISPLAY 3 MODULE CONDUIT BOXES

- Weekly or daily programme.
- **C51-C53 Preset and customisable weekly programme**
- COPY function to copy the programme from one day to the next day.
- **C52-C54 Daily programming.**
- Two preset automatic programmes AUTO 1 for weekdays and AUTO 2 for weekends.
- **All models:**
- Two buttons to regulate comfort and economy temperature, adjustable to 1/10 of a degree from 2 to 62°C.
- COMFORT, ECONOMY and OFF temperatures programmable as desired throughout the 24 h.
- Customized programming without operating limits, even every half-hour.
- JOLLY function to temporarily exclude, for up to 240 hours, the automatic programme and remain set to comfort, economy or off.
- SUMMER-WINTER operation mode.
- Flush mounting in recessed boxes with 3 modules type 503 with 2 screws (provided).
- Compliance with standards CEI EN 60730-1.
- Switch contact rating: 8(5)A 250V~.
- Protection level IP20.

CODE	COMFORT AND ECONOMY RANGE	DIFFERENTIAL *	POWER SUPPLY	ADMISSIBLE BODY TEMPERATURE	SWITCH CONTACT RATING
C51	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	8(5)A 250V~
C52	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	8(5)A 250V~
C53	2 ÷ 62 °C	0,25 K	230V - 50Hz	-10 ÷ 50 °C	8(5)A 250V~
C54	2 ÷ 62 °C	0,25 K	230V - 50Hz	-10 ÷ 50 °C	8(5)A 250V~

The following plates can be fitted **BTicino** Light - Light Tech - Living - Living di transizione **Vimar** Plana - Eikon - Idea - Eikon Next - Rondò **Gewiss** Playbus - Playbus Young **Ave** Sistema 45 - Banquise - Yes - Noir Blanc **Siemens** Delta Futura Graphit **Legrand** Ergo - Cross - Vela

- **C51T-C52T ANTHRACITE**
- **C51BT-C52BT WHITE**
- **C51CT SILVER**

Intellitherm C51T-C52T FLUSH MOUNTING PROGRAMMABLE THERMOSTAT WITH NON-JUTTING DISPLAY 3 MODULE CONDUIT BOXES

- **C51T:** preset and customisable weekly programme. COPY function to copy the programme from one day to the next day.
- **C52T:** daily programming.
  Two preset automatic programmes AUTO 1 for weekdays and AUTO 2 for weekends.
- Is not possible to connect to GSM phone activators CT3A and CT3AM.
- **All models:**
- Two buttons to regulate comfort and economy temperature, adjustable to 1/10 of a degree from 2 to 62°C.
- COMFORT, ECONOMY and OFF temperatures programmable as desired throughout the 24 h.
- Customized programming without operating limits, even every half-hour.
- JOLLY function to temporarily exclude, for up to 240 hours, the automatic programme and remain set to comfort, economy or off.
- SUMMER-WINTER operation mode.
- Flush mounting in recessed boxes with 3 modules with 2 screws (provided).
- Compliance with standards CEI EN 60730-1.
- Switch contact rating: 8(5)A 250V~.
- Protection level IP20.

CODE	COMFORT AND ECONOMY RANGE	DIFFERENTIAL *	POWER SUPPLY	ADMISSIBLE BODY TEMPERATURE	SWITCH CONTACT RATING
C51T	2 ÷ 62 °C	0,25 K	2 batteries AAA 1,5V	-10 ÷ 50 °C	8(5)A 250V~
C52T	2 ÷ 62 °C	0,25 K	2 batteries AAA 1,5V	-10 ÷ 50 °C	8(5)A 250V~

- **C46A WHITE**
- **C46AN ANTHRACITE**

Intellitherm C46 DAILY PROGRAMMABLE THERMOSTAT

- Daily programming.
- Two coloured knobs, one red and one black to adjust comfort and economy temperatures.
- Wall mounting, or semi-recessed in boxes with 3 modules.
- Two preset automatic programmes AUTO 1 for weekdays and AUTO 2 for weekends.
- Customized programming without operating limits, even every half-hour.
- JOLLY function to temporarily exclude, up to 240 hours, the automatic programme and remain set to comfort, economy or off.
- SUMMER-WINTER operation mode.
- ⧈ double insulation.
- Compliance with standards CEI EN 60730-1 and second parts.
- Disconnection (1BU).
- Power supply from 2 AA size long-life 1,5 V alcaline batteries.

CODE	COMFORT RANGE	ECONOMY RANGE	DIFFERENTIAL *	ADMISSIBLE BODY TEMPERATURE	SWITCH CONTACT RATING
C46A	16 ÷ 34 °C	5 ÷ 23 °C	0,25 K	-10 ÷ 50 °C	5(3)A 250V~
EXECUTION WITH EXTERNAL PROBE FOR ELECTRICAL FLOOR HEATING SYSTEM					
C46E	16 ÷ 34 °C	5 ÷ 23 °C	0,25 K	-10 ÷ 50 °C	16(4)A 250V~

* The differential values refer to a thermal gradient of 4K/hour in air.

Intellitherm C55 WEEKLY PROGRAMMABLE THERMOSTAT
Intellitherm C56 DAILY PROGRAMMABLE THERMOSTAT

- C55, preset and customisable weekly programme
- C56, daily programme, two preset automatic programmes AUTO 1 for weekdays and AUTO 2 for weekends.
- Two buttons to regulate comfort and economy temperatures, adjustable to 1/10 of degree from 2 to 62°C.
- COMFORT, ECONOMY and OFF temperatures programmable as desired over 24 hours.
- Customized programming without operating limits, even every half-hour.
- COPY function to copy the programme from one day to the next day.
- JOLLY function to temporarily exclude, up to 240 hours, the automatic programme and remain set to comfort, economy or off.
- SUMMER-WINTER operation mode.
- Wall mounting, or semi-recessed in boxes with 3 modules and round boxes to European Standard
- Compliance with standards CEI EN 60730-1 and second parts.
- Switch contact rating: 8(5)A 250V~.

CODE	COMFORT AND ECONOMY RANGE	DIFFERENTIAL *	POWER SUPPLY	ADMISSIBLE BODY TEMPERATURE	ANTIFREEZE TEMPERATURE
C55	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C
C56	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C

* The differential values refer to a thermal gradient of 4K/hour in air.

C55-C56 WHITE
C55C-C56C SATIN-FINISH CHROME
C55N-C56N TRANSPARENT SMOKE

Intellitherm C75 WEEKLY PROGRAMMABLE THERMOSTAT
Intellitherm C76 DAILY PROGRAMMABLE THERMOSTAT

- C75, preset and customisable weekly programme
- C76, daily programme, two preset automatic programmes AUTO 1 for weekdays and AUTO 2 for weekends.
- Two buttons to regulate comfort and economy temperatures, adjustable to 1/10 of degree from 2 to 62°C.
- COMFORT, ECONOMY and OFF temperatures programmable as desired over 24 hours.
- Customized programming without operating limits, even every half-hour.
- COPY function to copy the programme from one day to the next day.
- JOLLY function to temporarily exclude, up to 240 hours, the automatic programme and remain set to comfort, economy or off.
- SUMMER-WINTER operation mode.
- Wall mounting, or semi-recessed in boxes with 3 modules and round boxes to European Standard
- Compliance with standards CEI EN 60730-1 and second parts.
- Switch contact rating: 8(5)A 250V~.

CODE	COMFORT AND ECONOMY RANGE	DIFFERENTIAL *	POWER SUPPLY	ADMISSIBLE BODY TEMPERATURE	ANTIFREEZE TEMPERATURE
C75	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C
C76	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C
C75CT-C76CT INTELLITHERM C75-C76 WITH INTERFACE FOR TELECONTROL CT3A OR CT3AM					

* The differential values refer to a thermal gradient of 4K/hour in air.

C75-C76 WHITE RED PLATE WHITE COVER
C75B-C76B WHITE GRAY PLATE WHITE COVER
C75K-C76K GRAY GRAY PLATE BLU COVER

Intellitherm C57 WEEKLY PROGRAMMABLE THERMOSTAT
Intellitherm C58 DAILY PROGRAMMABLE THERMOSTAT

- 17 mm thickness only.
- C57: pre-set and customizable weekly programs already stored in the memory.
- C58: two pre-set programs already stored in the memory. AUTO1 for week-days and AUTO2 for week-ends. Both customizable.
- Two buttons to regulate comfort and economy temperature, adjustable to 1/10 of degree from 2 to 62°C.
- COMFORT, ECONOMY and OFF temperature programmable as required within the 24 hours. Customized programming without operating limit, even every half hour.
- COPY function to copy the program from one day to the next one.
- JOLLY function to exclude, temporarily and up to 240 hours, the AUTO program to have it set to COMFORT, ECONOMY or OFF temperature.
- SUMMER/WINTER switch for air-conditioning and heating system
- Wall or semi-flush-mounting in 3 modules or round box, according to European Standard.
- In compliance with CEI EN 60730-1 and 60730-2
- Switch contact rating: 8 (5) A at 250V

CODE	COMFORT AND ECONOMY RANGE	DIFFERENTIAL *	POWER SUPPLY	ADMISSIBLE BODY TEMPERATURE	ANTIFREEZE TEMPERATURE
C57	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C
C58	2 ÷ 62 °C	0,25 K	2 batteries AA 1,5V	-10 ÷ 50 °C	5 °C

* The differential values refer to a thermal gradient of 4K/hour in air.

C57-C58 WHITE
C57C-C58C SILVER
C57N-C58N NERO ANTHRACITE

CH150 WHITE
CH151 SILVER
CH152 ANTHRACITE

WEEKLY PROGRAMMABLE THERMOSTAT IntelliComfort CH150

- Possibility to connect a separated temperature sensor.
- Daily pattern programme indication in relation to the chosen temperature.
- Display visualization: ambient temperature if installed, temperature of second sensor ambient humidity, perceived temperature (in relation to humidity rate).
- Wide display with graphic icones combined with 6 frontal keys.
- Possibility to combine to the working timing, 3 different temperaures by 3 lateral knobs.
- SUMMER-WINTER period with separate programme
- Operation mode: AUTOMATIC-MANUAL-HOLIDAY-JOLLY-OFF.
- Possibility to visualize the temperature in Celsius or Fahrenheit.
- Type of regulation: standard (ON-OFF) or proportional.
- Thermal differential: high(HI) and low(LO).
- Operation mode of separated temperature sensor can be selected: ambient - external - floor.
- Ambient temperature adjustment: from ±0,1 to ±4°C.
- Optimum start mode: installation start in advance of the set switch on time based on thermal inertia (possibility to exclude this function).
- Possibility to visualize statistic data.
- Power supply: 2 1,5V alkaline AA long life battery.
- Protection level IP20.
- Temperature displayed range -30 ÷ 60 °C.

CODE	TEMPERATURE SETTING RANGE	DIFFERENTIAL	POWER SUPPLY	HUMIDITY DISPLAYED RANGE	SWITCH CONTACT RATING
CH150	2 ÷ 40 °C	0,25 K	2 batteries AA 1,5V	20 ÷ 90 UR%	5(3)A 250V~
CH150-16	2 ÷ 40 °C	0,25 K	2 batteries AA 1,5V	20 ÷ 90 UR%	16(4)A 250V~

CH150RF WHITE
CH151RF SILVER
CH152RF ANTHRACITE

RADIO FREQUENCY WEEKLY PROGRAMMABLE THERMOSTAT IntelliComfort CH150RF

- It keeps the same characteristics of CH150 with the addition of the humidity control function.
- "Radio transmission system" includes the weekly programmable thermostat CH150RF (transmitter) and a actuator used for heating and cooling thermoregulation systems.
- Receiver: CH170D.
- Radio signal range: 30 mt.

CODE	HUMIDITY DISPLAYED RANGE	HUMIDITY SETTING RANGE	TEMPERATURE SETTING RANGE	POWER SUPPLY	SWITCH CONTACT RATING
CH150RF	20 ÷ 90 UR%	30 ÷ 70 UR%	2 ÷ 40 °C	2 batteries AA 1,5V	
CH170D	RECEIVER, DIN RAIL MOUNTING (3 MODULES)			230Vac	5(3)A 250V~

CH150TS WHITE
CH151TS SILVER
CH152TS ANTHRACITE

TOUCHSCREEN WEEKLY PROGRAMMABLE THERMOSTAT IntelliComfort CH150TS

- With CH150TS it is enough to press the icons in the bottom part of the display to set the desired program.
- CH150TS is provided with a blue backlighting that gives it a modern and technological design.
- Backlighting is easily activated pressing any display zone (except for the icons zone) and it remains active up to 4 seconds after the last icon pressure.
- To facilitate the display cleaning, it has been introduced the keyboard block function that is activated/deactivated by a short pressure of the summer/winter key. When the keyboard block function is activated, a padlock is shown on the display.
- Switch contact rating: 5(3)A 250V
- Commutating contact: free of voltage.
- Power supply with 2 alkaline batteries type AA 1,5V.
- Battery shortage charge indication.
- Protection level IP20.
- Temperature range -30 ÷ 60 °C.

CODE	TEMPERATURE SETTING RANGE	HUMIDITY DISPLAYED RANGE	DIFFERENTIAL	POWER SUPPLY	SWITCH CONTACT RATING
CH150TS	2 ÷ 40 °C	20 ÷ 90 UR%	0,25 K	2 pile AA da 1,5V	5(3)A 250V~

REMOTE RELAY, WEEKLY PROGRAMMABLE THERMOSTAT
IntelliComfort CH150R

- CH150 programmable thermostats with remote relay (CH150R) includes all CH150RF functionalities and utilize two cables, that usually connect the programmable thermostats to the boiler, to be connected to the actuator CH171D.
- The actuator, power supplied at 230Vac, is positioned near the boiler and operates directly on it by a relay. The two cables that connect CH150R and CH171D are used both for the communication between the two devices and to power supply the CH150R; therefore the batteries AA inserted into
- CH150R have the only function to keep the time in case of voltage absence.
- Wall mounting, or semi-recessed in boxes with 3 modules and round boxes to European Standard.
- Connection to the user by 2 wires.
- IntelliComfort CH150R is preset for the connection to the GSM phone activator Telecomfort CT3M.
- In compliance with standards CEI EN 60730-2-9; CEI EN 60730-2-11.
- Power supply from the remote actuator by 2 wires. System to keep the set time by 2 batteries AA 1,5V (optional)
- Connection length: max 50 mt
- Protection level IP20

CODE	TEMPERATURE SETTING RANGE	HUMIDITY DISPLAYED RANGE	HUMIDITY SETTING RANGE	DIFFERENTIAL	POWER SUPPLY
CH150R	2 ÷ 40 °C	20 ÷ 90 UR%	30 ÷ 70 UR%	0,25 K	from CH171D
CH171D	ACTUATOR WITH 2 OUTPUT RELAYS				230Vca

CH150R WHITE
CH151R SILVER
CH152R NERO ANTHRACITE

SEPARATED PROBES FOR ALL INTELLICOMFORT

EC18	EXTERNAL PROBE	Admissible operating temperature -40 ÷ 80 °C Protection level IP55 Dimensions 66 x 106 x 54 mm
EC19	FLOOR PROBE	Admissible operating temperature -30 ÷ 85 °C Protection level IP40 Dimensions Ø 7x25 cable L= 3m section 2x 0,5 mm^2
EC20	AMBIENT PROBE	Admissible operating temperature -10 ÷ 45 °C Protection level IP20 Dimensions 70 x 70 x 33 mm

ELECTRONIC ROOM HUMIDOSTAT

- Via an electronic sensor, the D40 humidistat detects the room humidity, compares it with the set value and controls a relay for humidifying or dehumidifying the room.
- Capacitive type electronic sensitive element.
- To be used in rooms that do not exceed 85% of relative humidity is recommended; for rooms with higher humidity, contact our technical service.
- LED switches on when the humidity in the room exceeds the set value.
- Power supply 230 Vac 50Hz
- Maximum dissipated power 2VA.
- Switch contact rating 6(3)A 250V~
- Voltage free switching contacts.

CODE	RELATIVE HUMIDITY RANGE	DIFFERENTIAL	POWER SUPPLY	ADMISSIBLE AMBIENT TEMPERATURE	PROTECTION LEVEL
D40	30 ÷ 90 UR%	5 UR%	230V ~ 50Hz	0 ÷ 50 °C	IP20

RADIO WAVE CONTROL FOR Intellitherm C55-C56

- CR5 is a new control system for heating plants utilizing the most up-to-date radio transmission technology.
- The CR5 system is composed of an additional module to fit to the C55 or C56 programmable thermostats which acts as a transmitter and of a receiver to control the heating and/or air conditioning system; for good signal reception the maximum distance between transmitter and receiver is 30 metres in normal conditions (with no ground mesh, reinforced concrete, metal scaffolds, metal doors etc.).
- The transmitter element must be attached directly to the C55 (or C56) chronostat which maintains all technical and programming specifications.
- The receiver element must be wall mounted, connected to the control body of the heating system.
- Radio signal range: 30 metres.
- Conforming to European directives: electromagnetic compatibility 89/366/EEC telecommunication instruments 91/263/EEC low voltage 73/23/EEC
- Transmitter power: supplied by the connected chronostat.
- Receiver: power supply 230V~50Hz
- Switch contact rating 8(5) A 250Vc.a.

CODE	DESCRIPTION	ADMISSIBLE AMBIENT TEMPERATURE	PROTECTION LEVEL
CR5	Radio wave control for C55 and C56 composed of a transmitter module and a control receiver	-10 ÷ 45 °C	IP20

GSM PHONE ACTIVATOR - REMOTE CONTROL VIA SMS, WITHOUT FIXED TELEPHONE LINE

- Telecomfort CT3M/MA is provided with a built-in GSM modem, built-in antenna (CT3M) or external antenna (CT3MA), provided as standard. It allows remote control and activation of electric devices and heating system by means of suitable commands sent via SMS messages.
- It also allows remote control of any other electric equipment like for example: irrigation systems, household appliances, etc.
- It sends automatically an alarm message when an alarm condition occurs: alarm contact closing and/or opening or in the event of blackout.
- When it is connected to a Fantini Cosmi chronostat, using SMS messages the set programme can be adjusted and the chronostat status read: ambient temperature measured, day-time and night-time temperature setting, programme set, etc.
- Available connections:
  Intellitherm C55-C56 + interface CTI5.
  Intellitherm C51-C52-C53-C54 + interface CTI5X.
  Intellitherm C75CT-C76CT.
  IntelliComfort CH150 (all models).
- Box suitable for DIN EN-50022 rail mounting (4 modules).
- No fixed telephone line required.
- Quad band: EGSM850/900/1800/1900.
- Switch contact rating: 4(2)A-250Vc.a.

CODE	POWER SUPLLY	CONSUMPTION	ADMISSIBLE AMBIENT TEMPERATURE	PROTECTION LEVEL
CT3M	10-20 Vcc/Vca (50/60Hz)	10W max	-20 ÷ 60°C	IP40
CT3MA	Version with external antenna			
CTI5	Interface for programmable thermostats C55 weekly and C56 daily			
CTI5X	Interface for flush mounting programmable thermostats C51-53 weekly and C52 -54 daily			

Recommended power supply: N70A or equivalent output power, 12W minimum.
Regular operation when sending SMS messages is not guaranteed with lower power supplies

REMOTE CONTROL AND MONITORING SYSTEM (TELECONTROL)

- For remote monitoring and management, via modem and SMS messages, of any type of system, particularly suitable for: industrial plants, domotics and building automation water control greenhouses heating systems cooling systems, etc..
- Can also be used on existing systems of any type and make.
- Instrument customisable via PC for all parameters.
- Extractable terminal block for fast replacement of the instrument.
- lateral serial port for connection to the modem, separate from the front port to allow easy connection to the programming PC.
- GSM modem (mobile telephony) and PSTN modem (fixed telephony)
- Mounted on DIN rail (9 modules).
- Power supply 230V ca.
- Absorption 3VA.
- 4 digital inputs ON-OFF
- 3 digital inputs for temperature probes.
- 1 digital input for probe 4-20 mA
- 4 output relays
- Switch contact rating 250Vc.a. - 5A.

CODE	SUPPLY VOLTAGE AND FREQUENCY	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV70A	230V~ 50Hz	0 ÷ 50 °C	IP40

REMOTE CONTROL AND MONITORING SYSTEM (TELECONTROL)

- For remote monitoring and management, via modem and SMS messages, of any type of system, particularly suitable for: industrial plants, domotics and building automation water control greenhouses heating systems cooling systems, etc..
- Can also be used on existing systems of any type and make.
- Instrument customisable via PC for all parameters.
- Extractable terminal block for fast replacement of the instrument.
- 2-line display for setting parameters, remote monitoring and management for both.
- GSM modem (mobile telephony) and PSTN modem (fixed telephony)
- Mounted on DIN rail (9 modules).
- Power supply 230V ca.
- Absorption 3VA.
- 4 digital inputs ON-OFF
- 3 digital inputs for temperature probes.
- 1 digital input for probe 4-20 mA
- 4 output relays
- Switch contact rating 250Vc.a. - 5A.

CODE	SUPPLY VOLTAGE AND FREQUENCY	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV70D	230V~ 50Hz o 12Vcc	0 ÷ 50 °C	IP40

CONTROL PANELS AND ASSEMBLY KITS FOR EV70

EV70AK	Assembly kit that includes control unit, GSM modem, cable for connection to the modem, modem power supply, modem antenna and CD ROM with programs.
EV70AQ	Board with EV70A control unit completely wired.
EV70AQB	Board with EV70A control unit completely wired and buffer battery with battery charger.
EV70DK	Assembly kit that includes control unit, GSM modem cable for connection to the modem, modem power supply, modem antenna and CD ROM with programs.
EV70DQ	Board with EV70D control unit completely wired.
EV70DQB	Board with EV70D control unit completely wired and buffer battery with battery charger.

DIFFERENTIAL REGULATION CONTROL UNIT FOR THERMAL SOLAR PANEL SYSTEMS

- The EV40 differential control unit is suitable for the regulation and control of thermal solar panel systems, both of the vacuum tubes and flat plates types, with fluid forced circulation.
- 8 system akready stored in the memory.
- Other customizable by programming.
- The control unit is fitted with three analogue inputs for reading temperatures (0 to 150°c), and with two relays operating the solar pump. If required it can be fitted with another electromechanical actuator which will be different according to the type of system selected.
- A third relay can be programmed to cover different auxiliary functions.
- Furthermore, the EV40 control unit can be linked to a EM70 modem in order to remotely programme and manage the system using
- SMS messages, or just to know its current status.
- DIN rail mounting.
- Consumption: 5VA.
- 3 output relays.
- Switch contact rating: 5(3) A 250VAC.
- Compliant with the following EC Regulations: 2006/95/EC, 2004/108/ EC, 1993/68/ EC.
- Compliant with the following Standards: EN60730-1.
- RS232 serial port for modem connection.

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV40	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40

ELECTRONIC CONTROLLER FOR HEATING SYSTEMS

- For heating systems in apartment buildings, detached houses.
- Regulates the flow temperature of the system according to the outside temperature through a linearized regulation curve.
- Regulation is performed by direct control of the burner or with P.I. control of motorised mixer valves.
- Potentiometers to select the heating curve and to regulate the comfort and economy temperatures.
- Switch to select type of operation: off, antifreeze, always economy, economy night/comfort day (auto), antifreeze night/comfort day (auto).
- Potentiometer to regulate the delay in circulation pump shut-down.
- Pilot lights.
- Control unit with quick connection to base via FASTONS, transparent protective cover.
- Compliance with law 373, law no. 10 of 9 January 1991 and Presidential Decree 412 of 26 August 1993
- Compliance with standards CEI EN 60730-1.
- Consumption 5 VA.
- Output via relay on voltage free terminals.
- Switch contact rating 5A- 250Vc.a. (Ohmic load).
- Protection against radio disturbance with RC unit.

CODE	PROGRAMMING	SUPPLY VOLTAGE AND FREQUENCY	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV02F	Daily programming	230V~ 50Hz	0 ÷ 50 °C	IP40
EV05M	Weekly programming	230V~ 50Hz	0 ÷ 50 °C	IP40

FIXED POINT TEMPERATURE DIGITAL CONTROLLER

- Temperature control unit for applications in which the temperature must be kept at a constant value such as systems to produce domestic hot water, swimming pools, hot beds for greenhouse plants, etc..
- Controls of a motorized mixer valve or ON-
- OFF control for two independent stages of a two-stage burner.
- Alphanumeric display and 4 function keys for easy setting of parameters.
- PI (proportional-integral) regulation for fast and accurate adjustment without deviating from the set temperature.
- Data set using menu.
  Compliance with standards CEI EN 60730-1.
  Consumption 5 VA .
- DIN rail mounting (6 modules)
- Removable terminal block for easy
- replacement.
- Switch contact rating 5A - 230Vc.a. (Ohmic load).
- Anti-legionnaire's function can be set weekly and regulated (this function allows bacteria to be eliminated from the water by programmed raising of the temperature to 70°C)

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV60	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40

DIGITAL CONTROLLER FOR HEATING SYSTEMS WITH REMOTE CONTROL

- Suitable for all types of heating systems in apartment buildings, industrial plants, schools, detached houses, etc.
- The instrument regulates the flow water temperature of the heating system as a function of the room temperature required (programmed) and the outside temperature, according to the broken regulation curve set.
- Optimization of switch-on times.
- Built-in auxiliary controller (domestic hot water)
- RS232 serial port for connection with a GSM modem type EM70 or for fixed line type EM70F.
- The various parameters of the menu can be read and modified via telephone or GSM messages.
- 2 inputs for alarm messages.
- Consumption 7 VA.
- Switch contact rating 5A- 230Vc.a. (Ohmic load).
- Compliance with law 373, law no. 10 of 9 January 1991 and Presidential Decree 412 of 26 August 1993.
- Compliance with standards CEI EN 60730-1.

CODE	SUPPLY VOLTAGE AND FREQUENCY	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV80	230V~ 50Hz	0 ÷ 50 °C	IP40
DIGITAL CONTROLLER WITHOUT REMOTE MANAGEMENT			
EV80E	230V~ 50Hz	0 ÷ 50 °C	IP40
EV80CA	Code for activating remote management and relative instruction manual.		

CLIMATIC DIGITAL REGULATOR OF TEMPERATURE

- Climatic temperature control unit for centralized heating systems, schools, gyms, etc..
- Controls of a motorized mixer valve or ON-OFF control for two independent stages (two-stage burner).
- Alphanumeric display and 4 function keys for easy setting of the parameters selected from the menu of the type of regulation to set
- Data set using menu.
- Broken regulation curve on 4 outside temperature points.
- Optimization of switch-on time.
- Digital weekly programming clock with 5 year charge.
- Automatic control of circulation pump as a function of system demand.
- Anti-condensate probe to protect the boiler (optional).
- Compliance with standards CEI EN 60730-1.
- Consumption 5 VA.
- Removable terminal block for easy replacement.
- Switch contact rating 5A-230Vc.a. (Ohmic load).

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV83	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40

DIGITAL CONTROLLER FOR FLOOR HEATING SYSTEMS

- Universal delivery temperature control for heating systems and radiator panels.
- The EV84 controller regulates the delivery temperature on radiator panel systems, according to a specific broken 4-point curve that relates the delivery temperature to the outside temperature.
- EV84A has also an input for the D40 humidistat (normally open), which turns the system off if humidity exceeds a certain limit.
- Three points regulation output for motorised mixer valves.
- Fitted with automatic control for the plant circulation pump.
- Daily timer with 1 ON/1 OFF plant, associated with an AUTO program.
- Optimisation of on cycles
- Limiting sensor to protect against any excess temperature of the delivery water (optional).
- Correction sensor, ±3°C of the calculated delivery temperature (optional).
- Contact rating 5A-250V AC.

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV84	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40
EV84A	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40

DIGITAL CONTROLLER FOR HEATING SYSTEMS WITH REMOTE CONTROL - DIN RAIL MOUNTING

- Suitable for all types of heating systems in apartment buildings, industrial plants, schools, detached houses, etc.
- The instrument regulates the flow temperature of the heating system as a function of the room temperature required (programmed) and the outside temperature, according to the broken regulation curve set.
- Optimization of switch-on times.
- Large alphanumeric display for scrolling the configuration menus and various parameters.
- Built-in auxiliary controller (domestic hot water)
- RS232 serial port for connection with a GSM modem type EM70 or for fixed line type EM70F.
- The various parameters of the menu can be read and modified via telephone or GSM messages.
- 9 module control unit for DIN rail.
- Consumption 5 VA .
- Switch contact rating 5A- 230Vc.a. (Ohmic load).

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV85	230V~ 50Hz	9 moduli	0 ÷ 50 °C	IP40
DIGITAL CONTROLLER WITHOUT REMOTE MANAGEMENT				
EV85E	230V~ 50Hz	9 moduli	0 ÷ 50 °C	IP40
EV85CA	Code for activating remote management and relative instruction manual.			

MULTIFUNCTION EXPANDABLE HEATING CONTROLLER

- The EV87 is a multi-function, expandable regulator.
  It regulates the flow temperature using the following selectable modes:
  - Mixer valve and pump
  - Boiler with multi-stage burner (from 2 to 4)
  - Cascade boiler (from 2 to 4) with choice of main boiler rotation.
  - Two cascade boilers with two-stage burner, and choice of main boiler rotation.
- By using a FANBUS (two-wire communication bus) EV9x series (max 20 units) expansion modules (SLAVE) can be connected to the EV87 regulator in order to manage complex systems.
- The flow temperature is regulated according to the room temperature setting and the external temperature, in relation to a broken regulation curve.
- The broken curve relates four external temperatures values to four delivery temperature values, both of which can be set.
- Timer profile selectable from: two weekly programs with three timescales per day and a daily program with three timescales.
- Optimisation of on cycles
- 4…20mA input, can also be used for piloting the relay.
- 0…10V output with proportional regulation.
- Settable relay (auxiliary sensor 4…20 mA sensor).
- Two digital inputs that can be used as alarms.
- Remote control using SMS messages or in data mode.
- Consumation 5VA
- 4 outlet relays
- Switch contact rating 5A 230V~(Ohmic load).

CODE	SUPPLY VOLTAGE AND FREQUENCY	MODULES NUMBER	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV87	230V~ 50Hz	6 modules	0 ÷ 50 °C	IP40

DIGITAL CONTROLLER FOR COMPLEX TECHNOLOGICAL AND THERMIC SYSTEMS - LOCAL AND REMOTE CONTROL (MASTER)

- The system is composed of a MASTER and one or more SLAVES connected to the MASTER via a communication bus called FANBUS.
- The instrument acts as central controller allowing communication with various types of controllers and therefore, all the parameters of the connected controlling modules can be visualised and modified using a single display and keypad.
- Compliance with law 373, law no. 10 of 9 January 1991 and Presidential Decree 412 of 26 August 1993.
- Compliance with standards CEI EN 60730-1.
- Power supply 230V 50Hz
- Consumption 4 VA
- Switch contact rating 5A - 230Vc.a. (Ohmic load).
- 1 analog input for the external temperature
- 1 analog input for the delivery temperature
- 1 RS232 communication channel for connection to a modem or PC
- 1 FANBUS communication channel

CODE	SUPPLY VOLTAGE AND FREQUENCY	ADMISSIBLE OPERATING TEMPERATURE	PROTECTION LEVEL
EV90	230V~ 50Hz	0 ÷ 50 °C	IP40

EXPANSION MODULE (SLAVE)

- A FANBUS communication channel for connecting slaves with EV90 or EV87.
- All parameters can be visualised and modified via the Masterr EV90 or EV87. DIN rail mounting, 6 modules.
- Power supply 230V 50Hz.
- Consumption 3÷7 VA.
- Removable terminal blocks to facilitate wiring

CODE	SPECIFICATIONS	OUTPUT AND INPUT RELAYS
EV91A	TEMPERATURE COMPENSATOR MODULE WITH EXTERNAL PROBE	2 output relays for valve control 1 relay for circulation pump control 1analog input for the external temperature (opt.) 1 analog input for the delivery temperature
EV91B	TEMPERATURE COMPENSATOR MODULE FOR SANITARY HOT WATER	2 for valve control output relays 1 for pump control output relay 1 analogue input to measure the temperature to be regulated
EV91C	COMPENSATOR MODULE FOR TWO CASCADE BOILERS	2 to control butterfly valve relays 2 relays to control the burner valves 1 analogue input to measure the manifold temperature
EV91D	GENERIC OUTPUT MODULE	4 relay 5A-250Vc.a.
EV92	DIGITAL INPUT MODULE	8 voltage free digital inputs

MODEM AND ACCESSORIES FOR THE REMOTE CONTROL

	SPECIFICATIONS	SUITABLE FOR:
EM70	GSM modem with power supply and antenna for telecom system	EV70A - EV70D - EV80 - EV85 - EV90
40.....	CD with management programs software (supplied free of charge with the controllers)	EV70A - EV70D - EV80 - EV85 - EV90
N70A	Supply and battery charger	EV70A - CT3M - CT3MA - CT2 - EM70
1590029	Buffer battery 12V-1,2Ah.	EV70D - CT3M - CT3MA - CT2 - EM70

TEMPERATURE PROBE FOR HEATING SYSTEMS

	SPECIFICATIONS	SUITABLE FOR:
EC10	room probe	EV80 - EV80E - EV83 - EV84 - EV85 - EV85E - EV87
EC11	external probe	EV02F - EV05M
EC12	contact flow probe	EV02F - EV05M
EC13	immersion flow probe	EV02F - EV05M
EC14	external probe	EV60 - EV83 - EV70A - EV70D - EV80 - EV80E - EV84 - EV85 - EV85E - EV87 - EV90 - EV91
EC15	contact flow probe	EV60 - EV83 - EV70A - EV70D - EV80 - EV80E - EV84 - EV85 - EV85E - EV87 - EV90 - EV91
EC16	immersion flow probe	EV60 - EV83 - EV70A - EV70D - EV80 - EV80E - EV84 - EV85 - EV85E - EV87 - EV90 - EV91
EC17	pump probe	EV60 - EV84
EC21	high temperature probe	EV40

ELECTRIC SERVOCONTROL

SERVOCONTROLS O24A AND O24B

- Single-phase synchronous motor with two-way rotation, angle of rotation 90°.
- Die-cast aluminium case and bracket.
- Rated torque: 15Nm.
- Manual operation.
- Adjustable bracket height: max 30mm.
- Optional: auxiliary microswitch for signalling, pump control, etc.

SERVOCONTROL O33

- Single-phase synchronous motor with two-way rotation with built-in relay enabling the following:
  - control by means of 2-wire programmable thermostat and thermostats.
  - valve closing in case of tampering of thermostat and programmable thermostat connections.
  - control of one or several valves at the same time by only one thermostat or programmable thermostat .
  - control of the same valve by several thermostats or programmable thermostat parallel-connected.

SERVOCONTROLS O34-O35

- Cover in shock-proof thermoplastic.
- Angle of rotation 90°, limited by built-in limit stop contacts.
- Manual operation via handle and manual/automatic control button.
- Position indicator with reversible scale.

CODE	ROTATION TIME FOR 90" SEC	RATED TORQUE	MAX. TORQUE	CONSUPTION	PROTECTION LEVEL	FOR VALVES:
024A	600 sec. (10 min.)	15 Nm	15 Nm	4 W	IP40	DN15÷DN100
024B	300 sec. (5 min.)	15 Nm	15 Nm	4 W	IP40	DN15÷DN100
033A	90 sec.	4 Nm	9 Nm	4 W	IP40	
034A	280 sec.	10 Nm	15 Nm	3,5 W	IP40	DN 80 max
035A	100-150 sec.	18 Nm		3,5 W	IP40	

LINKAGE KITS FOR MIXING VALVES WITH SERVOCONTROLS

LINKAGE KITS FOR O23A

- **T01A** FANTINI - BUCHE
- **T01B** MUT
- **T01D** FANTINI-LAZZARI Ø 12
- **T01E** ZENTRA Ø 20,8
- **T01F** VILB Ø 11
- **T01G** STARK Ø 12
- **T01H** LOELL Ø 20
- **T01L** WIMAT Ø 14
- **T01M** VEMA Ø 12
- **T01N** BESSER Ø 12
- **T01P** COSTER 75 Ø 16
- **T01Q** COSTER 73 Ø 12
- **T01R** IVK Ø 14
- **T01S** SAUTER Ø 16
- **T01Z** MIXETTE Ø 12
- **T02A** VEMA Ø 10
- **T02B** VILB Ø 25
- **T02C** JUCKER Ø 14
- **T02G** ESBE (HOVAL-ELESTA) Ø 12
- **T02H** MAJMAR

LINKAGE KITS FOR O34A

- **T04A** FANTINI COSMI
- **T04B** MUT
- **T04C** SIEMENS
- **T04D** L&S SERIE 2
- **T04E** LAZZARI
- **T04F** ZENTRA
- **T04G** ESBE
- **TAUX** KIT for an auxiliary contact mounting

ROTOR MIXING VALVE

- Valve body in cast iron.
- Operating maximum temperature 110°C.

3 WAYS ROTOR

CODE	DN	KV (m^3/h)	MAXIMUM PRESSURE
WITH FLANGE			
Z61C	40	41	PN 6
Z61D	50	65	PN 6
Z61E	65	100	PN 6
Z61F	80	185	PN 6
Z61G	100	310	PN 6
CONNECTION FEMALE GAS-UNI 338-66			
Z62A	G1	17	PN 6
Z62B	G1 1/4	25	PN 6
Z62C	G1 1/2	41	PN 6
Z62D	G2	65	PN 6

4 WAYS ROTOR

CODE	DN	KV (m^3/h)	MAXIMUM PRESSURE
WITH FLANGE			
Z63C	40	41	PN 6
Z63D	50	65	PN 6
Z63E	65	100	PN 6
Z63F	80	185	PN 6
Z63G	100	310	PN 6
CONNECTION FEMALE GAS-UNI 338-66			
Z64A	G1	17	PN 6
Z64B	G1 1/4	25	PN 6
Z64C	G1 1/2	41	PN 6
Z64D	G2	65	PN 6

Kv= water carrying capacity with a pressure drop of1 bar

MIXING VALVE Plus serie

- Valve body in cast iron.
- Maximum operating temperature 120°C.

3 WAYS SECTOR

CODE	CONNEC-TION	KV (m^3/h)	MAXIMUM PRESSURE
FEMALE THREADED			
ZC3M	G 3/4	10	PN 6
ZC3A	G 1	15	PN 6
ZC3B	G 1 1/4	25	PN 6
ZC3C	G 1 1/2	40	PN 6
WITH FLANGE			
ZC340	40	40	PN 6
ZC350	50	60	PN 6
ZC365	65	100	PN 6
ZC380	80	185	PN 6
ZC3100	100	300	PN 6
ZC3125	125	525	PN 6
ZC3150	150	825	PN 6

4 WAYS ROTOR

CODE	CONNEC-TION	KV (m^3/h)	MAXIMUM PRESSURE
FEMALE THREADED			
ZC4M	G 3/4	11	PN 6
ZC4A	G 1	20	PN 6
ZC4B	G 1 1/4	30	PN 6
ZC4C	G 1 1/2	60	PN 6
WITH FLANGE			
ZC440	40	60	PN 6
ZC450	50	80	PN 6
ZC465	65	150	PN 6
ZC480	80	200	PN 6
ZC4100	100	300	PN 6

2- AND 3-WAY MOTORIZED BALL VALVE

- To control the flow rate of water, with equal percentage feature, in ventilation, air-conditioning and heating systems.
- Ball valves are operated by a rotary servo control with two ways rotation.
- Suitable for hot and cold water, antifreeze up to 50% of the volume.
- Supply voltage 230V 50/60Hz.
- Absorbed power 3,5VA.
- Power cable 1 m - 3x0.5mm^2
- Rated pressure 16 bar.
- Maximum differential pressure 3,5 bar.
- Rotation time 140 sec.
- Maximum temperature 100 °C.

2 WAY

CODE	DN	FEMALE THREADED FITTING	KV (m^3/h)
Z20L	15	G 1/2	4
Z20M	20	G 3/4	6,3
Z20A	25	G 1	10
Z20B	32	G 1 1/4	16
Z20C	40	G 1 1/2	25
Z20D	50	G 2	40

3 WAY

CODE	DN	FEMALE THREADED FITTING	KV (m^3/h)
Z30L	15	G 1/2	4
Z30M	20	G 3/4	6,3
Z30A	25	G 1	10
Z30B	32	G 1 1/4	16
Z30C	40	G 1 1/2	25
Z30D	50	G 2	40

3-WAY MOTORIZED GLOBE VALVE

- To cut off and control the flow rate of water with equal percentage feature, in ventilation, air-conditioning and heating systems.
- Globe valves are operated by a linear servo control.
- ZL30: travel time 7,5 sec/mm.
- Rated pressure 16 bar.
- Supply voltage 230V 50/60Hz.
- Absorption power 6VA.

3 WAYS THREADED

CODE	DN mm	THREADED FITTING	KV (m^3/h)	MAXIMUM PRESSURE
ZL30A	15	G1 1/8	4	PN 16
ZL30B	20	G1 1/4	6,3	PN 16
ZL30C	25	G1 1/2	10	PN 16
ZL30D	32	G2	16	PN 16
ZL30E	40	G2 1/4	25	PN 16
ZL30F	50	G2 3/4	40	PN 16

3 WAYS WITH FLANGE

CODE	DN mm	KV (m^3/h)	MAXIMUM PRESSURE	TRAVEL TIME sec/mm
ZL31A	25	10	PN 16	7,5
ZL31B	32	16	PN 16	7,5
ZL31C	40	25	PN 16	7,5
ZL31D	50	40	PN 16	7,5
ZL31E	65	63	PN 16	8
ZL31F	80	100	PN 16	8
ZL31G	100	145	PN 16	8
ZL31H	125	220	PN 16	8
ZL31I	150	320	PN 16	8

COMPACT MULTIPLE JET HEAT METER

- The compact heat meter is mounted onto the water return pipe and is made of a volumetric part to meter the water flow, temperature probes to measure their "ΔT" and of an electronic unit to calculate the heat consumption.
- Electric signals coming from the rotating magnet fixed to the turbine, are transmitted to the Master
- Unit and metered together with the signals coming from the temperature probes mounted on the flow and return pipes of the heating system.
- The heat meter can be connected to a PC or server for local or remote data reading by means of the pulse output.
- Installation may be either in a vertical, horizontal or slanting position.
- Power: 3V lithium battery.
- Temperature range: 5 - 90 °C
- Temperature range master unit: 1 ÷ 130 °C.
- LC display: 8 + special digits and 3 digits lines.
- The compact heat meter complies with the directive 2004/22/EC issued by the European Parliament on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	HORIZONTAL START-UP FLOW RATE	VERTICAL START-UP FLOW RATE	MAXIMUM TEMPERATURE	AVAILABILITY
ECC15AC	1/2" - 15 mm	0,6 m^3/h	3,5 l/h	4,5 l/h	90 °C	upon request
ECC15C	1/2" - 15 mm	1,5 m^3/h	7 l/h	7 l/h	90 °C	on hand
ECC20C	3/4" - 20 mm	2,5 m^3/h	10 l/h	10 l/h	90 °C	on hand

SINGLE-JET VOLUMETRIC METER UP TO 120 °C

- The single-jet volumetric meter is used to meter the water flow circulation rate in the cooling and heating systems. Single-jet water meters, small and medium size (apartments, offices, shops, etc.), are particularly suitable for continues flow rate changes during the day.
- Installation may be either in a vertical or horizontal position, with register upright orlaid on.
- Every unit is fitted with a pulse sending device with a flexible connecting cable (REED flexible connecting cable, not extensible) to remotely transmit the number of revolutions of the turbine.
- Dry dial meter with magnetic transmission.
- 360º rotating register for friendly reading.
- Pulses rate: 10 litres/pulse
- Protection level: IP68
- The volumetric meter complies with the directive 2004/22/EC issued by the European Parliament on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	MAXIMUM TEMPERATURE	AVAILABILITY
ECC15AGS	1/2" - 15 mm	0,6 m^3/h	1.2 m^3/h	12 l/h	120 °C	upon request
ECC15GS	1/2" - 15 mm	1,5 m^3/h	3 m^3/h	30 l/h	120 °C	upon request
ECC20GS	3/4" - 20 mm	2,5 m^3/h	5 m^3/h	50 l/h	120 °C	upon request
ECC15GSF	1/2" - 15 mm	1,5 m^3/h	3 m^3/h	30 l/h	120 °C	on hand
ECC20GSF	3/4" - 20 mm	2,5 m^3/h	5 m^3/h	50 l/h	120 °C	on hand

MULTIPLE JET VOLUMETRIC METER UP TO 130 °C

- The multiple jet volumetric meter is used to meter the water flow circulation rate in the cooling and heating systems. The small and medium size multiple jet water meters (for apartment buildings, average users, etc.) are particularly suitable for continues flow rate changes during the day.
- Every unit is fitted with a pulse sending device with a flexible connecting cable (REED flexible connecting cable, not extensible) to remotely transmit the number of revolutions of the turbine.
- The volumetric meter must be installed on to the return pipe of the system. Horizontal installation.
- Pulses rate: 10 litres/pulse
- Protection level: IP68
- The volumetric meter complies with the directive 2004/22/EC issued by the European Parliament on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	MAXIMUM TEMPERATURE	WEIGHT KG
ECC15GM	1/2" - 15 mm	1,5 m^3/h	3 m^3/h	30 l/h	130 °C	1,8
ECC20GM	3/4" - 20 mm	2,5 m^3/h	3 m^3/h	30 l/h	130 °C	2,1
ECC25GM	1" - 25 mm	3,5 m^3/h	7 m^3/h	70 l/h	130 °C	2,7
ECC32GM	1 1/4" - 32 mm	6 m^3/h	12 m^3/h	120 l/h	130 °C	2,8
ECC40GM	1 1/2" 40 mm	10 m^3/h	20 m^3/h	200 l/h	130 °C	5,3
ECC50GM	2" 50 mm	15 m^3/h	30 m^3/h	300 l/h	130 °C	5,8

WOLTMANN VOLUMETRIC METER UP TO 130 °C

- Suitable where the flows are not subject to strong variations, e.g. important supplies users.
- The volumetric meter must be installed onto return pipe of the system. Vertical, horizontal and slant body installation.
- The mechanical core is the fan with horizontal axis.
- Every unit is fitted with a pulse sending device with a flexible connecting cable to remotely transmit the number of revolutions of the current meter.
- By means of a rotating magnet, the pulse sending device converts mechanical motion into an electromagnetic contact (REED contact) that emits electrical pulse.
- Protection level: IP68
- REED flexible connecting cable, consisting of two flexible cables (thickness: 0.5 mm, length: 1.5 m, not extensible), withstanding 130 °C temperature.
- Pulses rate: 100 litres/pulse

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	WEIGHT KG	AVAILABILITY
ECC50W	50 mm	15 m³/h	30 m³/h	30 m³/h	7,7	on hand
ECC65W	65 mm	25 m³/h	60 m³/h	60 m³/h	10	on hand
ECC80W	80 mm	40 m³/h	90 m³/h	90 m³/h	14	on hand
ECC100W	100 mm	70 m³/h	140 m³/h	140 m³/h	18	on hand
ECC125W	125 mm	100 m³/h	200 m³/h	200 m³/h	20,5	on hand
ECC150W	150 mm	150 m³/h	300 m³/h	300 m³/h	35,5	upon request
ECC200W	200 mm	250 m³/h	500 m³/h	500 m³/h	50,5	upon request
ECC250W	250 mm	500 m³/h	1000 m³/h	1000 m³/h	72,3	upon request
ECC300W	300 mm	600 m³/h	1200 m³/h	1200 m³/h	99,3	upon request

SINGLE-JET VOLUMETRIC METER - COLD WATER UP TO 30 °C - WARM WATER UP TO 90 °C

- This volumetric meter is used to meter cold and warm potable water flow circulation rate in the systems.
- The volumetric meter can be installed in almost every position: horizontal, vertical or slanting position.
- Every unit is fitted with a pulse sending device with a flexible connecting cable (REED flexible connecting cable, not extensible) to remotely transmit the number of revolutions of the turbine.
- Self-contained extra-dry dial meter with magnetic transmission.
- Long-lasting performance: pressure-tight container, sealed with O-ring.
- Mechanical register with Reed contact.
- Cavo reed 1.5 m, non allungabile.
- Reed cable, 1.5 m, not extensible.
- The volumetric meter complies with the directive 2004/22/EC issued by the European Parliament on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	MAXIMUM TEMPERATURE	WEIGHT KG
ECCF15GS	1/2" - 15 mm	1.5 m³/h	3 m³/h	30 l/h	30 °C	0,45
ECCF20GS	3/4" - 20 mm	2.5 m³/h	5 m³/h	50 l/h	30 °C	0,55
ECCS15GS	1/2" - 15 mm	1.5 m³/h	3 m³/h	30 l/h	90 °C	0,45
ECCS20GS	3/4" - 20 mm	2.5 m³/h	5 m³/h	50 l/h	90 °C	0,55

MULTIPLE JET VOLUMETRIC METER, WARM WATER UP TO 90 °C

- This volumetric meter is used to meter water flow circulation rate in warm potable water systems.
- Horizontal installation.
- Every unit is fitted with a pulse sending device with a flexible connecting cable (REED flexible connecting cable, not extensible) to remotely transmit the number of revolutions of the turbine.
- Self-contained extra-dry dial meter with magnetic transmission.
- Magnetic protection cap as standard.
- Dry dial meter with magnetic transmission.
- 360° rotating register for friendly reading
- Reed cable, 1.5 m, not extensible.
- 10 litres/pulse.
- The volumetric meter complies with EC directive on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	WEIGHT KG	AVAILABILITY
ECCS15GM	1/2" - 15 mm	1.5 m³/h	3 m³/h	30 l/h	1,8	upon request
ECCS20AGM	3/4" - 15 mm	1.5 m³/h	3 m³/h	30 l/h	2,1	upon request
ECCS20GM	3/4" - 20 mm	2.5 m³/h	5 m³/h	50 l/h	2,1	upon request
ECCS25GM	1 " - 25 mm	3.5 m³/h	7 m³/h	70 l/h	2,7	upon request
ECCS32GM	1 1/4" - 32 mm	6 m³/h	12 m³/h	120 l/h	2,8	upon request
ECCS40GM	1 1/2" - 40 mm	10 m³/h	20 m³/h	200 l/h	5,2	upon request
ECCS50GM	2" - 50 mm	15 m³/h	30 m³/h	300 l/h	5,8	upon request

MULTIPLE JET VOLUMETRIC METER, COLD WATER UP TO 50 °C

- This volumetric meter is used to meter water flow circulation rate in cold potable water systems.
- Horizontal and vertical installation.
- Every unit is fitted with a pulse sending device with a flexible connecting cable (REED flexible connecting cable, not extensible) to remotely transmit the number of revolutions of the turbine.
- Swinging dial meter.
- PN25 pressure range.
- Mechanical register with Reed contact.
- Reed cable, 1.5 m, not extensible.
- 10 litres/pulse.
- The volumetric meter complies with the directive 2004/22/EC issued by the European Parliament on measuring instruments (MID).

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	WEIGHT KG	AVAILABILITY
ECCF15GM	3/4" - 15 mm	1.5 m^3/h	3 m^3/h	0,03 m^3/h	2	upon request
ECCF20GM	3/4" - 20 mm	2.5 m^3/h	5 m^3/h	0,025 m^3/h	2	upon request
ECCF25GM	1 " - 25 mm	3.5 m^3/h	7 m^3/h	0,035 m^3/h	3,2	upon request
ECCF32GM	1 1/4" - 32 mm	6 m^3/h	12 m^3/h	0,06 m^3/h	3,3	upon request
ECCF40GM	1 1/2" - 40 mm	10 m^3/h	20 m^3/h	0,1 m^3/h	6,1	upon request
ECCF50GM	2" - 50 mm	15 m^3/h	30 m^3/h	0,15 m^3/h	7,8	upon request

WOLTMANN VOLUMETRIC METER, COLD WATER UP TO 30 °C

- Suitable where the flows are not subject to strong variations, e.g. important supplies users.
- Vertical, horizontal and slant body installation.
- The mechanical core is the fan with horizontal axis.
- Every unit is fitted with a pulse sending device with a flexible connecting cable to remotely transmit the number of revolutions of the current meter.
- By means of a rotating magnet, the pulse sending device converts mechanical motion into an electromagnetic contact (REED contact) that emits electrical pulse.
- Switzerland and PTB approved according to EN 1434 Standards.
- Protection level: IP68.
- 100 litres/pulse.

CODE	NOMINAL SIZE Inch - DN	NOMINAL FLOW RATE Qn	MAXIMUM FLOW RATE Qmax	MINIMUM FLOW RATE Qmin	WEIGHT KG	AVAILABILITY
ECCF50W	50 mm	15 m^3/h	30 m^3/h	0,45 m^3/h	7,7	upon request
ECCF65W	65 mm	25 m^3/h	50 m^3/h	0,75 m^3/h	10	upon request
ECCF80W	80 mm	40 m^3/h	80 m^3/h	1,2 m^3/h	14	upon request
ECCF100W	100 mm	60 m^3/h	120 m^3/h	1,8 m^3/h	18	upon request
ECCF125W	125 mm	100 m^3/h	200 m^3/h	3 m^3/h	20,5	upon request
ECCF150W	150 mm	150 m^3/h	300 m^3/h	4,5 m^3/h	35,5	upon request
ECCF200W	200 mm	250 m^3/h	500 m^3/h	7,5 m^3/h	50,5	upon request
ECCF250W	250 mm	400 m^3/h	800 m^3/h	12 m^3/h	72,3	upon request
ECCF300W	300 mm	600 m^3/h	1200 m^3/h	18 m^3/h	99,3	upon request

CALCULATION MASTER UNIT FOR HEAT METERING SYSTEMS WITH 2 OUTPUTS

- Calculation unit to monitor and meter calories.
- ECCM detects the difference between the flow and return temperature and every single volume pulse.
- The ECCM can be installed onto a flow rate sensor adapter either vertical or horizontal.
- Switzerland and PTB approved according to EN 1434 Standards.
- Compliance with MID. Class C.
- The ECCM is equipped with two pulse outputs for thermal and volume energy, "open collector" type.
- The ECCM is equipped with M Bus serial data output, in compliance with EN1434-3 Standards.
- Reading can be performed both via LCD display and bus connection.
- All values are displayed on the 7+2 digits alphanumeric LCD display.

CODE	SUPPLY VOLTAGE	OPERATING TEMPERATURE	PRECISION RESISTOR	PULSE VALUE	OUTPUTS
ECCM	battery	5 ÷ 55 °C	PT500	0,0001÷9999	2
EKCCM45	ECCM MASTER UNIT KIT + 2 EC45, 45MM PROBES + 2 EC45P TRAPS				
EKCCM85	ECCM MASTER UNIT KIT + 2 85MM PROBES + 2 EC85P TRAPS				

CALCULATION MASTER UNIT FOR HEAT METERING SYSTEMS WITH 2 INPUTS

- Calculation unit to monitor and meter calories. the ECCM2I detects the difference between the flow and return temperature and every single volume pulse.
- The ECCM2I can be installed onto a flow sensor adapter either vertical or horizontal.
- Switzerland and PTB approved according to EN 1434 Standards.
- Compliance with MID. Class C.
- The ECCM2I is equipped with two others pulse inputs that can be used as pulses registers, for instance to record domestic water consumption, and that can be easily read via an M Bus or directly on the LCD display.
- The ECCM2I is equipped with M Bus serial data output, in compliance with the EN1434-3 Standards
- Reading can be performed both via LCD display and bus connection.
- All values are displayed on the 7+2 digits alphanumeric LCD display.

CODE	SUPPLY VOLTAGE	OPERATING TEMPERATURE	PRECISION RESISTOR	PULSE VALUE	INPUTS
ECCM2I	battery	5 ÷ 55 °C	PT500	0,0001÷9999	2
EKCCM2I45	ECCM2I MASTER UNIT KIT + 2 EC45, 45MM PROBES + 2 EC45P TRAPS				
EKCCM2I85	ECCM2I MASTER UNIT KIT + 2 85MM PROBES + 2 EC85P TRAPS				

TEMPERATURE PROBES AND TRAPS

EC45	pair of 45 mm probes for S-J and M-J
EC45P	1/2" 45 mm trap
EC85P	pair of 85 mm probes with traps (1 pair) for W.

METER INTERFACE UNIT (MIU) FOR HEAT METERING SYSTEMS

- The ECCR is a meter interface unit that can be installed on most of the pulse emitter indicators, with only one external connection to the meter.
- It includes a self-contained Radio Frequency (RF) transceiver and is a true two-way communication device (Range: 1 km max, indoors: 200 m)
- One ECCR unit can connect up to 4 meters.
- Meters reading can be made through a laptop or remotely via GSM.
- Remote meter reading can be carried out on a single meter or groups of them.
- ECCR units can be configured remotely with ECCRSW software.
- Alarm signal transmission possibility is available.
- Transmitter 25mW for 868MHz
- Receiver sensitivity - 110dBm (with 1% BER at 9.6kbps)
- Tamper, leak and low battery alarms.
- Dimensions: 120 mm H x 40 mm L x 30 mm D
- Weight 130 gr.
- Protection level IP68

CODE	POWER SUPPLY	OPERATING FREQUENCY	OPERATING TEMPERATURE	DATA TRANSMISSION RATE	N° CONTATORI COLLEGABILI
ECCR	Lithium-thionyl chloride 1A battery	868 MHz	-20 ÷ 70 °C	32 kbps max	4
ECCRR25	REPEATER 25mW				
ECCRR500	REPEATER 500 mW				

GSM CONCENTRATOR FOR HEAT METERING SYSTEMS

- In a fixtelephone line network, the ECCGSM concentrator provides the link between (a) the Utility's servers and its automated meter reading enabled centers and allows the remote reading of up to 2,000 meters per concentrator, over a large geographical area.
- Remote meter reading can be carried out on groups of meters or on a single meter "upon request", which can be identified through their local ID number.
- Receiver sensitivity - 110dBm.
- Long range RF transmission (range: 1 km max, indoors: 200 m).
- Rapid detection of leaks, tamper and low battery alarms.
- Can manage up to 255 simultaneous requests.
- Operating temperature -20 ÷ 55 °C
- Protection level IP66.
- Operating software ECCGSMSW.

CODE	POWER SUPPLY	OPERATING FREQUENCY RF	OPERATING FREQUENCY GSM	AVAILABILITY
ECCGSM	220 Vca	868 MHz con frequenza FHSS	900-1800 MHz	upon request

RADIO MODEM FOR HEAT METERING SYSTEMS

- The ECCMR radio modem integrates a Radio Frequency (RF) transceiver that allows communication with all ECCR units within its operating range.
- The ECCMR can be used as a simple data collection device or as a monitoring and control system for the whole network over a range of several hundred metres; this makes it ideal for reading from a laptop.
- The ECCMR is compatible with Windows 2000, XP, Windows CE and it can be connected with a PC or a laptop via RS232 or USB interface.
- USB power supply: through USB port, RS232: separate power supply (4.5V-6V DC)
- The ECCMR can be used by choosing several reading operative modes (broadcast, polling, peer-to-peer and repeater) that allow maximum flexibility.
- Receiver sensitivity - 110dBm (with 1% BER at 9.6kbps)
- Protection level IP68.
- Heat metering system operating software ECCSW.

CODE	POWER SUPPLY	OPERATING FREQUENCY	OPERATING TEMPERATURE
ECCMR	through USB port RS232: separate power supply (4.5V-6V DC)	868 MHz with FHSS frequency	-20 ÷ 70 °C

BLUETOOTH ANTENNA FOR HANDHELD COMPUTER

- The Bluetooth Antenna for handheld computer integrates a Radio Frequency (RF) receiver that allows communication with all
- ECCR units within its operating range. The antenna features the Bluetooth technology which allows to transfer data to a PDA device.
- The ECCPDABA is compatible with any type of handheld computer available on the market and running with Windows Mobile
- Operating software ECCPDASW.
- Dimensions: 110mm H x 40mm L x 30mm D
- Weight 110 gr.

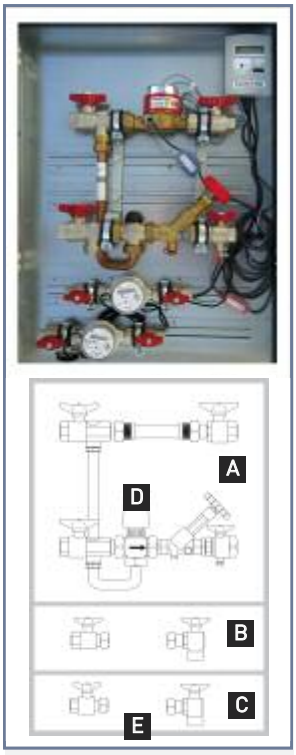
M-BUS CONCENTRATOR

- The M-Bus data concentrator is available in two versions, 20 and 60 slave (metering points) version. It is the ideal device for M-Bus remote reading simple and cost effective.
- Read data can be logged and processed by a computer with a dedicated software. Data transmission can also be implemented by connecting a GSM modem to a remote computer not linked directly to the concentrator.
- Up to 20 ECCM or ECCM2I can be connected to the ECC20CON model.
- Up to 60 ECCM or ECCM2I can be connected to the ECC60CON model.
- Reading of PC data with connection to the
- concentrator through serial cable.
- Wall mounting for ECC60CON version
- DIN-rail mounting for ECC20CON version
- Protection level IP40.
- Dimensions ECC20CON 76x56x117 mm.
- Dimensions ECC60CON 78x70x118 mm.
- Operating software ECCMBSW.

CODE	SLAVE	POWER SUPPLY	OPERATING TEMPERATURE
ECC20CON	20	10,8V ÷ 28 Vdc/Vac	0 ÷ 55 °C
ECC60CON	60	20V ÷ 45 Vdc 30 Vac	0 ÷ 55 °C

HEAT METERING MODULES

- The ECC modules include all the elements and components required for a complete metering system.
- The ECC is a user management and metering module-system.



CODE	COMPONENTS	
ECCMIR	HYDRAULIC KIT WITHOUT BOX WITHOUT ZONE VALVE, heating/cooling versions.	**A**
ECCMIRV	HYDRAULIC KIT WITHOUT BOX WITH 2-WAY ZONE VALVE, heating/cooling versions.	**A**
ECCMIRVBP	HYDRAULIC KIT WITHOUT BOX WITH 3-WAY BY-PASS ZONE VALVE, heating/cooling versions.	**A**
040	Electrothermic actuator 230 V usually operated by a programmable thermostat	**D**
041	Electrothermic actuator 24 V usually operated by a programmable thermostat	**D**
ACSD	KIT for warm ipotable water with straight valves.	**B**
AFSD	KIT for cold ipotable water with straight valves.	**C**
ACSDS	KIT for warm potable water with 90° angle valves.	**B**
AFSDS	KIT for cold potable water with 90° angle valves.	**C**
CAS1	Galvanized sheet box, flush-mounting, 500x650x110mm	**E**
CAS2	Galvanized sheet box, flush-mounting, 800x650x110mm	**E**
CAS3	Galvanized sheet box, flush-mounting, 1000x650x110mm	**E**
CAS4	Galvanized sheet box, flush-mounting, 1200x650x110mm	**E**

SOFTWARE FOR WATER METERING SYSTEMS

ECCRSW	**(C MODULE)** RADIO UNIT CONFIGURATION SOFTWARE
ECCSW	**(D MODULE)** SOFTWARE FOR MANAGING HEAT METERING SYSTEMS
ECCGSMSW	**(F MODULE)** SOFTWARE FOR MANAGING SYSTEMS WITH GSM
ECCPDASW	**(M MODULE)** SOFTWARE FOR MANAGING SYSTEMS WITH WINDOWS MOBILE HANDHELD COMPUTERS
ECCMBSW	SOFTWARE FOR MANAGING DEVICES THROUGH M-BUS

AIR FLOW SWITCH

- Suitable to signal and control the air flow in air conditioning process systems requiring cooling or heating air control
- A dimensioned flexible paddle, pushed by the air flow, determines the deplacement of a stem that operates the SPDT microswitch lever.
- Flow switch must be installed in horizontal ducts away from fans, curves or others locations where air turbulence could be generated
- When flow increases: C-NC opens and C-NO closes.
- When flow decreases: C-NC closes and C-NO opens
- Casing with antilose screws in thermoplastic and anti-shock material
- AISI 316 stainless steel flexible paddle (standard dimensions 50x165mm)
- Faston 6.3 electrical connections.
- Calibration screw for adjusting the cut-in point.
- PVC flange, 5 mm thick.
- Compliance with standards CEI EN 60947-5-1.
- SPDT single-pole switching microswitch.
- Maximum ambient temperature 45 °C.
- Switch contact rating: 250V~ 10(3)A.

CODE	DUCT SURFACE	MAXIMUM INCREASING FLOW SPEED	MAXIMUM DECREASING FLOW SPEED	OPERATING AIR TEMPERATURE	PROTECTION LEVEL
FF71A	160 cm^2	1,4 m/sec	0,6 m/sec	-20 ÷ 70 °C	IP54
	320 cm^2	2,2 m/sec	1,2 m/sec		
	640 cm^2	3 m/sec	1,6 m/sec		
	1280 cm^2	3m/sec	1,7 m/sec		

LIQUID FLOW SWITCH

FF81

- Casing in shock-proof thermoplastic with self-retaining screws.
- Threaded brass connection G 1
- Nylon cable gland G3/8.
- Compliance with standards CEI EN 60947-5-1
- AISI 301 stainless steel blades from G1 to G4.
- Electric connections on Faston 6.3 (provided).
- Protection class 2.
- SPDT single-pole switching microswitch.
- Admissible operating temperature -20÷110°C.
- Switch contact rating: 250V~ 10(3)A.
- Maximum operating pressure 10 bar

FF84

- Stainless steel case.
- Threaded brass connection G 1.
- Nickel-plated brass cable gland G 3/8.
- In compliance with CEI EN 60947-5-1.
- AISI 301 stainless steel blades from G6 to G10.
- Electric connections on Faston 6.3 (provided).
- Protection class 1.
- SPDT single-pole switching microswitch.
- Temperature operating range -20÷110°C.
- Switch contact rating: 250V~ 10(3)A.
- Maximum operating pressure 10 bar

CODE	PIPE DIAMETER	MINIMUM CALIBRATION VALUE (dm^3/sec) WITH FLOW: INCREASING	DECREASING	MAXIMUM CALIBRATION VALUE (dm^3/sec) WITH FLOW: INCREASING	DECREASING	PROTECTION LEVEL
FF81	G1	0,26	0,16	0,58	0,53	IP54
	G2	0,8	0,6	1,7	1,6	
	G3	1,7	1,2	3,2	3	
FF84	G4	2,2	1,7	5,1	4,8	
	G6	4,7	3,4	9	8,5	IP54
	G8	12,9	10,7	26	25,2	
	G10	26,5	22	43,5	41	

LIQUID FLOW SWITCH

- The flow switches are used to indicate, control and regulate the flow in a pipe; for controlling pumps, burners, compressors, alarm signals, motorized valves.
- A flexible blade, moved by the flow, acts on the operating lever of a SPDT microswitch.
- Casing in shock-proof thermoplastic.
- Threaded brass connection G1.
- Protection level IP65.
- AISI301 stainless steel blades for pipes.
- Temperature operating range -20 ÷110°C.
- Maximum pressure 10 bar.

CODE	PIPE DIAMETER	PADDLES LENGTH	MINIMUM CALIBRATION VALUE (dm³/sec) WITH FLOW: INCREASING	DECREASING	MAXIMUM CALIBRATION VALUE (dm³/sec) WITH FLOW: INCREASING	DECREASING
FF82	G1	35	1	0,5	2	1,9
	G1 1/4	35	1,2	0,7	2,9	2,7
	G1 1/2	58	1,6	1	3,9	3,6
	G2	58	2,9	2,1	6,1	5,7
	G2 1/2	89	4	2,7	7	6,5
	G3	89	6,1	4,3	11,4	10,7
	G4	89	14,7	11,3	28,9	27,6
		167	7,9	6,1	18,4	17,3
	G5	89	28,3	22,8	55,5	53
		167	12,8	9,2	26,7	25
	G6	89	43	35,8	85	81,6
		167	16,8	12,2	32,5	30,5
	G8	89	85	72,4	172,3	165,5
		167	46,4	38,5	94	90,7

LIQUID FLOW SWITCH WITH PLASTIC BLADE

FF81P

- Casing in anti-shock thermoplastic material.
- Threaded brass connection G1.
- Nylon cable gland G 3/8.
- Non-toxic thermoplastic resin blade from G4 with references for cut to G1-G2-G3.
- Protection class 2.
- Electric connections on Faston 6.3 (provided).
- Calibration screw to adjust the set-point.
- Maximum temperature 50 °C.
- Max temperature of controlled liquid 110°C*
- Maximum pressure 10 bar.

FF91P

- Casing in anti-shock thermoplastic material.
- Threaded brass connection G1/2.
- Nylon cable gland G 3/8.
- Non-toxic thermoplastic resin blade from G2 with references for cut to G1/2-G1- G1 1/2.
- Protection class 2.
- Electric connections on Faston 6.3 (provided).
- Calibration screw to adjust the set-point.
- Maximum temperature 50 °C.
- Max temperature of controlled liquid 110°C*
- Maximum pressure 10 bar.

CODE	PIPE DIAMETER	MINIMUM CALIBRATION VALUE (dm³/sec) WITH FLOW: INCREASING	DECREASING	MAX CALIBRATION VALUE (dm³/sec) WITH FLOW: INCREASING	DECREASING	MALE CONNECTION
FF81P	G1	0,26	0,16	0,58	0,53	G1
	G2	0,87	0,65	1,65	1,74	
	G3	1,85	1,3	3,49	3,27	
	G4	2,39	1,85	5,56	5,23	
FF91P	G1/2	0,13	0,8	0,29	0,26	G1/2
	G1	0,26	0,16	0,58	0,53	
	G1 1/2	0,39	0,24	0,87	0,79	
	G2	0,8	0,6	1,7	1,6	

*For the control of drinkable water: 85°C max. recommended

THREE-POLE CONTACTOR SERIES HR09-HR13 UP TO 6 KW

- Compliance with recommendations and standards: IEC 947-4, CEI EN 60947-1, CEI EN 60947-4-1, VDE 0660, BS 60947-4-1, UTE - NCF 63-110, NEMA NBN C63158, AS1029.
- Approval:

CODE	F	G	D	U	X	C	W	B	Z
50 Hz-V	24	48	110 ÷ 115	220 ÷ 230	220 ÷ 240	366	380 ÷ 400	440	480 ÷ 500
60 Hz-V		58				440		528	

CODE	CONTACT DIAGRAM	RATED THERMAL CURRENT Ith	RATED CURRENT IN AC3-380V~ Ie	CONTROLLABLE POWERS OF THREE-PHASE MOTORS IN CATEGORY AC2-AC3 220-240V	380-415V	440V	660V
HR0910N ☐		25 A	9 A	2.2 kW 3 HP	4 kW 5.5 HP	4.5 kW 6 HP	4.5 kW 6 HP
HR0901N ☐		25 A	9 A				
HR1310N ☐		25 A	13 A	3.2 kW 4.5 HP	6 kW 8 HP	6.5 kW 8.8 HP	6.5 kW 8.8 HP
HR1301N ☐		25 A	13 A				

THREE-POLE CONTACTOR SERIES HR17-HR25 UP TO 11 KW

- Compliance with recommendations and standards: IEC 947-4, CEI EN 60947-1, CEI EN 60947-4-1, VDE 0660, BS 60947-4-1, UTE- NCF 63-110, NEMA NBN C63158, AS1029.
- Approval:

CODE	F	G	D	U	X	C	W	B	Z
50 Hz-V	24	48	110 ÷ 115	220 ÷ 230	220 ÷ 240	366	380 ÷ 400	440	480 ÷ 500
60 Hz-V		58				440		528	

CODE	CONTACT DIAGRAM	RATED THERMAL CURRENT Ith	RATED CURRENT IN AC3-380V~ Ie	CONTROLLABLE POWERS OF THREE-PHASE MOTORS IN CATEGORY AC2-AC3 220-240V	380-415V	440V	660V
HR1710N ☐		40 A	17 A	4 kW 5.5 HP	7.5 kW 10.5 HP	8.5 kW 11.5 HP	8.5 kW 11.5 HP
HR1701N ☐		40 A	17 A				
HR2510N ☐		40 A	25 A	6 kW 8 HP	11 kW 15 HP	12.5 kW 17 HP	12.5 kW 17 HP
HR2501N ☐		40 A	25 A				

THREE-POLE CONTACTOR SERIES HR33 - HR55 UP TO 30 KW

- Compliance with recommendations and standards: IEC 947-4, CEI EN 60947-1, CEI EN 60947-4-1, VDE 0660, BS 60947-4-1, UTE- NCF 63-110, NEMA NBN C63158, AS1029.
- Approval:

CODE	F	G	D	U	X	C	W	B	Z
50 Hz-V	24	48	110 ÷ 115	220 ÷ 230	220 ÷ 240	366	380 ÷ 400	440	480 ÷ 500
60 Hz-V		58				440		528	

CODE	CONTACT DIAGRAM	RATED THERMAL CURRENT Ith	RATED CURRENT IN AC3-380V~ Ie	CONTROLLABLE POWERS OF THREE-PHASE MOTORS IN CATEGORY AC2-AC3 220-240V	380-415V	440V	660V
HR33N ☐		72 A	33 A	7.5 kW 10 HP	15 kW 20 HP	18,5 kW 25 HP	22 kW 30 HP
HR40N ☐		72 A	40 A	11 kW 15 HP	18,5 kW 25 HP	20 kW 27 HP	30 kW 40 HP
HR46N ☐		90 A	46 A	15 kW 20 HP	22 kW 30 HP	25 kW 34 HP	37 kW 50 HP
HR55N ☐		110 A	55 A	18.5 kW 25 HP	30 kW 40 HP	33 kW 45 HP	35 kW 60 HP

THERMAL RELAY FOR CONTACTOR SERIES HR09-HR13-HR17-HR25

- Direct mounting on HR contactors.
- Automatic compensation of ambient temperature.
- Auxiliary contacts 1NO+1NC.
- Manual reset.
- Stop/reset button.
- Trip indicator and release test.
- Operating temperature -5 ÷ 55°C.
- Storage temperature -40 ÷ 70 °C.
- Relative humidity from 45% to 85%.
- Standards and approvals: VDE 0660 CEI EN 60947-4-1 IEC 947-4-1
- Approval:

CODE	REGULATION RANGE A			RATED THERMAL CURRENT Ith	RATED CURRENT Ie Vc.a. 220V 240V	Vc.a. 380V 415V	Vc.a. 500V~	Vc.c W
JA25 ☐	A 0.15÷0.25	G 1.2÷1.75	O 10÷15	10 A	3A	1,5A	1A	50
	B 0.22÷0.33	H 1.7÷2.6	P 13.5÷20					
	C 0.3÷0.45	I 2.5÷3.7	Q 18÷26					
	D 0.42÷0.63	L 3.6÷5.4						
	E 0.6÷0.9	M 5.3÷7.5						
	F 0.85÷1.27	N 7.3÷10.2						

THERMAL RELAY FOR CONTACTOR SERIES HR33-HR40-HR46-HR55

- Direct mounting on HR contactors.
- Automatic compensation of ambient temperature.
- Protection against lack of phase.
- Auxiliary contacts 1 NO + 1 NC.
- Manual reset.
- Stop/reset button.
- Trip indicator and release test.
- Operating temperature -5 ÷55 °C.
- Storage temperature -40 ÷ 70 °C.
- Relative humidity 45 a 85%.
- Standards and approvals: VDE 0660 CEI EN 60947-4-1 IEC 947-4-1
- Approval:

CODE	REGULATION RANGE A		RATED THERMAL CURRENT Ith	RATED CURRENT Ie Vc.a. 220V 240V	Vc.a. 380V 415V	Vc.a. 500V~	Vc.c W
JA46 ☐	A 14÷23	D 35÷50	10 A	6A	3A	1,5A	100
	B 20÷33	E 46÷65					
	C 28÷42						

DIRECT STARTERS IN IP65 WATERPROOF INSULATING ENCLOSURE

- To protect electric motors against overloads.

CODE	U	W
50-60 Hz V	220 ÷ 230	380 ÷ 400

CODE		A	B	C	D	E	F	G	H	I	L	M	N	O
		0.15 ÷ 0.25	0.22 ÷ 0.33	0.3 ÷ 0.45	0.42 ÷ 0.63	0.6 ÷ 0.9	0.85 ÷ 1.27	1.2 ÷ 1.75	1.7 ÷ 2.6	2.5 ÷ 3.7	3.6 ÷ 5.4	5.3 ÷ 7.5	7.3 ÷ 10.2	10 ÷ 15
PROTECTIVE FUSES (A):	AM	0.5	0.5	1	1	2	2	2	4	6	8	10	12	16
	gl	-	-	2	2	4	4	4	4	6	10	16	20	25

CODE	RATED THERMAL CURRENT Ith	RATED CURRENT AC3-380V Ie	CONTROLLABLE POWERS OF THREE-PHASE MOTORS IN CATEGORY AC2-AC3 220-240V	380-415V	500V	COMPOSITION
DIRECT STARTER WITH RESET BUTTON						
HS0910Y ☐☐	25 A	9 A	2.2 kW 3 HP	4 kW 5.5 HP	5.5 kW 7.5 HP	HR0910+JA25+UH13Y
HS1310Y ☐☐	25 A	13 A	3.2 kW 4.5 HP	6 kW 8 HP	8 kW 11 HP	HR1310+JA25+UH13Y
DIRECT STARTER WITH RUN-STOP/RESET BUTTON						
HS0910Y ☐☐P	25 A	9 A	2.2 kW 3 HP	4 kW 5.5 HP	5.5 kW 7.5 HP	HR0910+JA25+UH13YP
HS1310Y ☐☐P	25 A	13 A	3.2 kW 4.5 HP	6 kW 8 HP	8 kW 11 HP	HR1310+JA25+UH13YP

DIRECT STARTERS IN IP65 WATERPROOF INSULATING ENCLOSURE

■ To protect electric motors against overloads.

CODE	U	W
50-60 Hz V	220 ÷ 230	380 ÷ 400

CODE		A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
		0.15 ÷ 0.25	0.22 ÷ 0.33	0.3 ÷ 0.45	0.42 ÷ 0.63	0.6 ÷ 0.9	0.85 ÷ 1.27	1.2 ÷ 1.75	1.7 ÷ 2.6	2.5 ÷ 3.7	3.6 ÷ 5.4	5.3 ÷ 7.5	7.3 ÷ 10.2	10 ÷ 15	13.5 ÷ 20	18 ÷ 26
PROTECTIVE FUSES (A):	AM	0.5	0.5	1	1	2	2	2	4	6	8	10	12	16	25	40
	gl	-	-	2	2	4	4	4	4	6	10	16	20	25	50	63

CODE	RATED THERMAL CURRENT Ith	RATED CURRENT AC3-380V Ie	CONTROLLABLE POWERS OF THREE-PHASE MOTORS IN CATEGORY AC2-AC3 220-240V	380-415V	500V	COMPOSITION
DIRECT STARTER WITH RESET BUTTON						
HS1710Y □□	40 A	17 A	4 kW 5.5 HP	7.5 kW 10.5 HP	10 kW 14 HP	HR1710+JA25+UH25Y
HS2510Y □□	40 A	25 A	6 kW 8 HP	11 kW 15 HP	15 kW 20 HP	HR2510+JA25+UH25Y
DIRECT STARTER WITH RUN-STOP/RESET BUTTON						
HS1710Y □□P	40 A	17 A	4 kW 5.5 HP	7.5 kW 10.5 HP	10 kW 14 HP	HR1710+JA25+UH25YP
HS2510Y □□P	40 A	25 A	6 kW 8 HP	11 kW 15 HP	15 kW 20 HP	HR1710+JA25+UH25YP

AUXILIARY CONTACTORS

■ For circuits in which a large number of NO or NC contacts are required to satisfy the requirements of complex wiring diagrams.

SIGLA	F	G	D	U	X	C	W	B	Z
50 HZ-V	24	48	110 ÷ 115	220 ÷ 230	220 ÷ 240	366	380 ÷ 400	440	480 ÷ 500
60 HZ-V		58				440		528	

CODE	CONTACT DIAGRAM	CONTACTS NUMB. NO	NC	RATED THERMAL CURRENT ITH	COMANDO IN CORRENTE ALTERNATA AC-15 220-240V	380-415V	500V	COMANDO IN CORRENTE CONTINUA DC-13 220-240V	380-415V	500V
HX1040E □		4	0	10 A	3 A	1,5 A	1 A	0,5 A	0,35 A	0,25 A
HX1031E □		3	1	10 A	3 A	1,5 A	1 A	0,5 A	0,35 A	0,25 A
HX1022E □		2	2	10 A	3 A	1,5 A	1 A	0,5 A	0,35 A	0,25 A

AUXILIARY CONTACT BLOCKS AND MECHANICAL INTERLOCKS

INSTANT AUXILIARY BLOCKS

IR02 

IR13 

IR11 

IR31 

IR22 

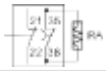
TIMED AUXILIARY BLOCKS

IT60D 

IT60I 

AUXILIARY CONTACT BLOCKS

IDC10 □ 

IDC01 □ 

CODE	F	G	D	U
Tensione bobina in c.a.	24V	48V	110V	230V

SEPARATE MOUNTING

I82 support for separate mounting JA46

I84 support for separate mounting JA25

MECHANICAL INTERLOCK

I85 mechanical interlock for HR

SELF-REGULATING HEATING CABLE FOR FROST PROTECTION

- Self-regulating heating cables for freeze protection of water pipes in all situations.
- To avoid damage that may be caused by thawing and snow or ice, that has accumulated on the roofs of houses.
- Fluoropolymer external sheath.
- Conductor section: 0,57 mm^2.
- Standars and approvals:
  CSTB N° 14/00-597*01 EXT - LCIE ATEX 0004 U - FIMKO N° FI 17718.
- Rated voltage: 230V ~ 50Hz.
- Calibration of protective circuit at 0°C for 100 metres.
- Power at 0°C : 16,5 W/m.
- Cable dimensions 8,3 x 5,8 mm.

CODE	REEL LENGTH	MINIMUM TEMPERATURE SUSTAINED	MAXIMUM TEMPERATURE NOT SUPPLIED	MAXIMUM TEMPERATURE WHEN SUPPLIED	MAXIMUM LENGTH OF HEATING CIRCUIT FROM SUPPLY POINT
K15A25	25 mt	-30 °C	80 °C	65 °C	100 mt
K15A50	50 mt	-30 °C	80 °C	65 °C	100 mt
K15A75	75 mt	-30 °C	80 °C	65 °C	100 mt
K15A100	100 mt	-30 °C	80 °C	65 °C	100 mt

Conductor section 0,57 mm^2
Self-regulating conductive core
Polyolefin sheath
Copper braid
Polyolefin external sheath

SELF-REGULATING HEATING CABLE FOR HIGH TEMPERATURE

- To maintain constant temperature values of liquid in pipelines for example: sanitary water.
- It is possible to keep over 70°C liquids into pipelines avoiding legionella batterious.
- It si possible to assure control the temperature with a thermostat L03BM1.
- Self-adjusting conductive nucleus.
- Conductor section 1,23 mm^2.
- Polyolefin external sheath.
- Copper braid.
- Standars and approvals:
  CSTB N° 14/00-597*01 EXT
  LCIE ATEX 0004 U
- Rated voltage: 230V~.
- **K55A100**=22,5 W/m a 0°C - 9 W/m a +55°C
- **K65A100**=31,5 W/m a 0°C - 13 W/m a +65°C
- Calibration of protective circuit

K55A100	**K65A100**
50 m 10A	50 m 10A
80 m 16A	80 m 16A
120 m 20A	120 m 20A

CODE	REEL LENGTH	MAXIMUM TEMPERATURE NOT SUPPLIED	MAXIMUM TEMPERATURE WHEN SUPPLIED	MAXIMUM LENGTH OF HEATING CIRCUIT FROM SUPPLY POINT
K55A100	100 mt	120 °C	100 °C	120 mt
K65A100	100 mt	120 °C	100 °C	100 mt

Conductor section 1,23 mm^2
Self-regulating conductive core
Polyolefin sheath
Copper braid
Polyolefin external sheath

CONSTANT POWER HEATING CABLE FOR FROST PROTECTION ACTIVATED WITH THERMOSTAT

- Suitable for freeze protection of pipes for misting, irrigation, fire-fighting systems, etc.. The cable may also be used to maintain the temperature of fluids, such as inks, caustic soda, etc., in their pipes.
- Conductors insulated with silicone rubber.
- Heating element windings in nickel chromium alloy.
- External PVC sheath.
- Conductor section 0,75 mm^2.
- Cable dimensions 6 mm x 4 mm.
- Standars and approvals:
  6351 : 2.1 - IEE 515 NATIONAL STANDARD
- Rated voltage: 230V~.
- Calibration of protective circuit 6A.
- Output ~12W/m.

CODE	REEL LENGTH	MINIMUM TEMPERATURE SUSTAINED	MAXIMUM TEMP NOT SUPPLIED	MAXIMUM TEMP. WHEN SUPPLIED	MAXIMUM LENGTH OF HEATING CIRCUIT FROM SUPPLY POINT
K12C25	25 mt	-30 °C	80 °C	65 °C	80 mt
K12C50	50 mt	-30 °C	80 °C	65 °C	80 mt
K12C75	75 mt	-30 °C	80 °C	65 °C	80 mt

PVC sheath.
Nickel chromium alloy heating element
Internal connection point
Silicone insulation
Conductor section 0,75 mm^2

Conductor section 1,23 mm²
Self-regulating conductive core
Polyolefin sheath
Copper braid
Polyolefin external sheath

SELF-REGULATING HEATING CABLES FOR TEMPERATURE MAINTENANCE OF FLUIDS

- To maintain the temperature of fluids inside pipes or other vessels. The cable has an inner core which generates more heat when the temperature drops and less heat when it rises.
- Standards and approvals:
  CSTB N° 14/00-597*01 EXT
  LCIE ATEX 0004 U
  FIMKO N° FI 17718
- Rated voltage 230V~50Hz.

	K20A	K30A	K40A
Calibration of protective circuit at 0°C for 100 mt.	155mt	120mt	100mt
	25A	32Amax	32Amax
Power 0°C	24W/mt	36W/mt	48W/mt

CODE	REEL LENGTH	MINIMUM TEMPERATURE SUSTAINED	MAXIMUM TEMP NOT SUPPLIED	MAXIMUM TEMP. WHEN SUPPLIED	MAXIMUM LENGTH OF HEATING CIRCUIT FROM SUPPLY POINT
K20A25	25 mt	-30 °C	80 °C	65 °C	155 mt
K20A50	50 mt	-30 °C	80 °C	65 °C	155 mt
K20A100	100 mt	-30 °C	80 °C	65 °C	155 mt
K30A25	25 mt	-30 °C	80 °C	65 °C	120 mt
K30A50	50 mt	-30 °C	80 °C	65 °C	120 mt
K30A100	100 mt	-30 °C	80 °C	65 °C	120 mt
K40A25	25 mt	-30 °C	80 °C	65 °C	120 mt
K40A50	50 mt	-30 °C	80 °C	65 °C	120 mt
K40A100	100 mt	-30 °C	80 °C	65 °C	120 mt

Cold tail
Copper braid
PVC insulation
Silicone rubber insulation
Resistance conductor
Connection to the cold tail
PVC sheath

CONSTANT POWER HEATING CABLE FOR SLOPES

- Suitable to be laid under the flooring of access ramps, car parks, pavements, pedestrian walkways, etc.
- Primary insulation: silicone rubber.
- Secondary insulation: PVC.
- Earth protection: copper braid.
- External sheath: PVC.
- External diameter 6,8 mm.
- Standard cold tails 2x4mt 1,5 mm² insulated in PVC.
- Two standard cold tails of 1,5mm² lenght 4mt cad.
- Rated voltage 230V~.
- Output ~15W/m.
- Maximum cable temperature when supplied 80°C

CODE	REEL LENGTH	SURFACE HEATED WITH 130W/m²	TOTAL ABSORBED POWER AT 230V~	MINIMUM TEMPERATURE SUSTAINED	MAXIMUM TEMPERATURE NOT SUPPLIED
K13C30	30 mt	3,5 m²	450 W	-20 °C	90 °C
K13C74	74 mt	8,5 m²	1100 W	-20 °C	90 °C
K13C100	100 mt	13 m²	1550 W	-20 °C	90 °C
K13C142	142 mt	17 m²	2191 W	-20 °C	90 °C

HEATING CABLES FOR ROAD RAMPS WITH CONSTANT WATTAGE

- These cables are made of two leads in tough copper and tinned copper, XLPE insulation, aluminium and copper shielding and external sheath in PVC.
- The supply of a heating unit includes the following:
  A standard length of heating cable.
  2 insulated connections.
  2 cold tails, 1 mm² , length 2.3 m each.
- Cables are supplied in fixed standard lengths which shall not be cut or extended.
- The two ends of the cable must be connected to the phase and neutral in a specific junction box.
- The cable shall not overlap along its run and the original length shall not be cut.
- The cable shall be laid at a depth of 50 mm in a bed of sand and concrete with coil-shaped run with a pitch of 100 mm.
- Cables shall be provided with control thermostats, code L03BM1
- Protection circuit rating: 16A (K17C129).

CODE	REEL LENGTH	TOTAL ABSORBED POWER AT 230V~	MAXIMUM TEMPERATURE WHEN SUPPLIED
K17C29	29 mt	500 W	65 °C
K17C73	73,5 mt	1250 W	65 °C
K17C82	82,3 mt	1400 W	65 °C
K17C102	102,9 mt	1750 W	65 °C
K17C129	129,4 mt	2200 W	65 °C

FLUSH MOUNTING ON/OFF OR PID THERMOSTAT WITH 1 OUTPUT

- Flush mounting (panel) with fixing brackets. Sensor included: 1 probe NTC10K LS130.
- Type of control can be selected:
  - ON-OFF and differential or programmable P.I.D. action of output.
- Compliance with standards CEI EN60730-1, EN60730-2-9, EN55022 (classe B), EN50082-1
- Front panel protection level IP55.
- Output on single-pole switching relay.
- Switch contact rating 16(4)A 240 V~.
- Connections on terminals sect. 2mm^2.
- Consumption 2VA.
- Probe precision at <±0.3°C(-40÷100), ±1°C.

CODE	SENSOR INCLUDED	POWER SUPPLY	OUTPUTS NO.	MEASUREMENT RANGE	RESOLUTION
L02BI1A	1 PROBE NTC10K LS130	12Vac/dc	1	-40 ÷ 105 °C	0,1/1 °C
L02BM1A		230Vac	1	-40 ÷ 105 °C	0,1/1 °C

FLUSH MOUNTING ON/OFF OR PID THERMOSTAT WITH 1 OR 2 OUTPUTS

- Type of control can be selected:
  - ON-OFF and differential or programmable P.I.D. action of output 1.
  - ON-OFF and differential of output 2.
- Flush mounting (panel) with fixing brackets.
- Compliance with standards CEI EN60730-1, EN60730-2-9, EN55022 (classe B), EN50082-1
- Front panel protection level IP55.
- Output 1 on single-pole switching relay.
- Output 2 ON/OFF.
- Connections on terminals sect. 2mm^2.
- L02CI1B-L02CM1-L02DI1B-L02DM1 switch contact rating: 12(4)A 240 Va.c.
- L02AM2-L02CM2-L02DM2 switch contact rating: 12(4)A 240 Va.c. for output 1 and 7(2)A 240Vac for output 2.
- L02AI2B-L02CI2B-L02DI2B: 10A 24 Vac/dc for output 1 and 1A 24Vac/dc for output 2.

CODE	SENSOR	OUTPUTS NO.	MEASURE-MENT RANGE °C	RESOLUTION	PROBE PRECISION	POWER SUPPLY
L02AI2B*	1 probe NTC10K LS130 included	2	-40÷105	0,1/1 °C	<±0.3°C(-40÷100), ±1°C	12Vac/dc
L02AM2*		2				115÷230Vac 50Hz
L02CI1B	1 probe PT100 LS140 included	1	0÷400	0,1/1 °C	<±0.3°C(-50÷150), ±1°C	12Vac/dc
L02CI2B*		2				
L02CM1		1				115÷230Vac 50Hz
L02CM2*		2				
L02DI1B	1 thermoc. J LS150 excluded	1	0÷450	0,1/1 °C	<± 3°C	12Vac/dc
L02DI2B*		2				
L02DM1		1				115÷230Vac 50Hz
L02DM2*		2				

*alarm threshold management for output 2

ON/OFF OR PID THERMOSTAT WITH 1 OR 2 OUTPUTS WITH ALARM THRESHOLD MANAGAMENT

- DIN rail mounting 3 modules.
- Type of control can be selected:
  - ON-OFF and differential or programmable P.I.D. action of output 1.
  - ON-OFF and differential of output 2.
- Compliance with standards CEI EN60730-1; EN60730-2-9; EN55022 (Classe B); EN50082-1.
- Front panel protection level IP40.
- Output 1 and 2 on single-pole switching relay.
- Switch contact rating 16(4)A 240 Va.c.
- Connections on terminals sect. 2mm^2.
- Consumption 3VA.
- Probe precision K <±0.3°C(-40÷100), ±1°C.

COD.	SENSOR INCLUDED	POWER SUPPLY	OUTPUTS NO.	MEASUREMENT RANGE °C	RESOLUTION
L03BI1A	1probe NTC 10K LS130	12Vac/dc	1	-40 ÷ 105	0,1 (-19.9÷99.9),1
L03BI2A*			2		
L03BM1A		230Vac	1	-40 ÷ 105	0,1 (-19.9÷99.9),1
L03BM2A*			2		

*alarm threshold management for output 2

WALL MOUNTING ON/OFF THERMOSTAT WITH 1 OR 2 OUTPUTS

- Wall mounting.
- Instrument reading range -50 ÷ 150°C
- Configurable parameters:
  - cooling or heating function allocating a plus or minus sign respectively to the differential.
  - minimum or maximum setpoint limits
  - ON or OFF status of the output in the event of faulty probe
  - minimum OFF time of the output.
- Compliance with standards CEI EN60730-2-9
- Front panel protection level IP40.
- Output on single-pole switching relay.
- Switch contact rating 5(3)A 240V~.
- Connections on terminals sect. 2mm².
- Consumption 3VA.
- Instrument precision ± 0,75°C.

CODE	SENSOR INCLUDED	POWER SUPPLY	OUTPUTS NO.	MEASUREMENT RANGE	RESOLUTION	PROBE PRECISION AT 25°C
L04BM1	1 probe PTC1000 LS120	230Vac	1	-40 ÷ 105°C	1 °C	± 1,5 K
L04BM2			2			

FLUSH AND WALL MOUNTING THERMOMETER

L12BM

- Visualization of the temperature reading and visualization of the minimum or maximum value reached.
- Range in °C or °F.
- Consumption 3VA.
- Power supply 230 Vac.

L14BM

- Consumption 2VA.
- Power supply 230 Vac.

All the models:

- Connections on terminals sect. 2mm².
- Compliance with standards CEI EN60730-2-9
- Front panel protection level IP40.

CODE	SENSOR	MEASUREMENT RANGE	RESOLUTION	INSTRUMENT PRECISION	PROBE PRECISION
FLUSH MOUNTING					
L12BM	PTC1000 LS120 escluso	-40 ÷ 105 °C	0,1°C da -20 a 100°C	± 0,2 (-20 ÷100)	± 1,5 K a 25°C
	PT100 LS140 not included	0 ÷ 400 °C	1°C da 100 a 400°C	± 0,2 (-20 ÷100) ± 1 (100 ÷600)	± 0,3 K a 0°C
WALL MOUNTING					
L14BM	PTC1000 LS120 included	-40 ÷ 105 °C	1°C	± 0,75	± 1,5 K a 25°C

FLUSH MOUNTING HUMIDOSTATS

- Flush mounting (panel) with fixing brackets.
- Type of control can be selected: ON/OFF or PID.
- Compliance with standards CEI EN60730-1, EN60730-2-9, EN55022 (classe B), EN50082-1
- Output on single-pole switching relay.
- Switch contact rating 16(4)A 240 Vac.
- Connections on terminals sect. 2mm².
- Consumption 2VA.
- Operating temperature -10 ÷ 50°C.
- Front panel protection level IP55.

COD.	SENSOR ESCLUDED	POWER SUPPLY	OUTPUTS NO.	MEASUREMENT RANGE UR%	RESOLUTION UR%	INSTRUMENT PRECISION (0÷100 UR%) UR%
L22EI1A	1 probe LS160A	12Vac/dc	1	0 ÷ 100	1	<± 0,7
L22EM1A		230 Vac				

DIN RAIL MOUNTING HUMIDOSTAT

- DIN rail mounting 3 modules.
- Type of control can be selected: ON/OFF or PID.
- Compliance with standards CEI EN60730-1, EN60730-2-9, EN55022 (classe B), EN50082-1
- Output on single-pole switching relay.
- Switch contact rating 16(4)A 240 Vac .
- Connections on terminals sect. 2mm^2.
- Consumption 3VA.
- Power supply 230Vac.
- Front panel protection level IP40.

CODE	SENSOR ESCLUDED	POWER SUPPLY	MEASUREMENT RANGE UR%	RESOLUTION UR%	INSTRUMENT PRECISION
L23EM1A	1 probe LS160A	1	0 ÷ 100 UR%	1 UR%	± 0,7 UR%

WALL MOUNTING HUMIDOSTAT

- Wall mounting.
- With 1 switch-on value plus differential.
- The set value represents the relative humidity at which the output switches off, while the switch-on point is obtained by adding the differential.
- Configurable parameters:
  - dehumidifying or humidifying function allocating a plus or minus sign respectively to the differential.
  - minimum or maximum setpoint limits
  - ON or OFF status of the output in the event of faulty probe
  - minimum OFF time of the output
- Compliance with standards CEI EN60730-2-9.
- Output on single-pole switching relay.
- Switch contact rating 5(3)A 240 Vac.
- Connections on terminals sect. 2mm^2.
- Consumption 3VA.
- Power supply 230Vac.
- Instrument precision ± 1 UR%.
- Front panel protection level IP45.

CODE	SENSOR NOT INCLUDED	OUTPUTS NO.	MEASUREMENT RANGE	RESOLUTION	PROBE PRECISION AT 25÷75 UR%
L24EM1	1 probe LS160A	1	0 ÷ 100 UR%	1 UR%	± 5 UR%

PROBES

TEMPERATURE AND HUMIDITY PROBES

CODE	MEASUREMENT RANGE	PRECISION K	TIP	PROTECTION LEVEL	CONDUC-TORS mm^2	CABLE TEMP.	CABLE LENGHT cm
LS120 PTC1000	-40 ÷ 105 °C	±1,5 a 25°C	Ø 6x34mm	IP67	2 x 0,4	-40÷105	200
LS123 PTC1000	-40 ÷ 105 °C	±1,5 a 25°C	Ø 6x34mm	IP67	2 x 0,4 +shield	-40÷105	200
LS140 PT100	0 ÷ 400 °C	±0,3 a 0°C	Ø 6x160 steel AISI 316	IP65	3 x 0,2	0÷400	100
LS150 (termo-coppia J)	0 ÷ 450 °C	0÷290 (±2,5) ...450 (±0,75%)	Ø 6x160 steel AISI 316	IP65	2 x 0,5	0÷450	300
LS130 NTC10K	-40 ÷ 105 °C	±1,5 a 25°C	Ø 6x34mm	IP67	2 x 0,4	-40÷105	200

HUMIDOSTAT PROBE

CODE	MEASUREMENT RANGE	PRECISION	DIMENSIONS
LS160A	0 ÷ 100 UR%	±5% 25...75%UR	100 x 75 x 53

DIRECT ACTING SOLENOID VALVE BODIES

- Solenoid valves suitable for water, air, fuel-oil, inert gases and other non-corrosive
- copper alloys fluids with viscosity up to 2° Engler.
- 2-ways normally closed.
- Direct action.
- With the coil energized, the valve opens immediately to allow fluid to pass.
- Closing time 10 msec.
- Stamped brass valve body.
- Stainless steel internal parts (17%CR).
- VITON seals (fluoroelastomer).
- With coil in dc the pressure indicated is reduced by 60%.
- Operating temperature range-10 ÷ 140°C.

Coils supplied separated from the body.

CODE	ORIFICE DIAMETER	FEMALE UNION	KV m^3/h	MAXIMUM DIFFERENTIAL PRESSURE Vn	0,85Vn	TEST PRESSURE (DIN2401) PN
M20B3	3 mm	G 1/4	0,27	16 bar	10 bar	25 bar
M20C5	5 mm	G 3/8	0,612	6 bar	2 bar	25 bar
M20D5	5 mm	G 1/2	0,612	6 bar	2 bar	25 bar
M20E7	7 mm	G 3/4	1	2,5 bar	1,8 bar	25 bar

Kv = flow rate in m^3/h of water with difference in downstream and upstream pressures of 1 bar (1 bar = 100 kPa).
For IM21 bi-frequency coils used at 60 Hz, the values indicated are reduced by an average of 12%

SOLENOID VALVES with test certificates issued by the Study and Experience Centre of the MINISTRY OF THE INTERIOR Fire-Prevention Service, Rome Capannelle.

CODE	CONTROL COIL 24V	115V	230V	CONNECTOR	ORIFICE	UNION	KV m^3/H	WORKING PRESSURE
M20C5	IM21F	IM21H	IM21M	1578501	5 mm	G 3/8	0,612	0÷2 bar
M20D5	IM21F	IM21H	IM21M	1578501	5 mm	G 1/2	0,612	0÷2 bar
M20E7	IM21F	IM21H	IM21M	1578501	7 mm	G 3/4	1	0÷2 bar
M20C51	IM22F*	-	-	1578501	5 mm	G 3/8	0,612	0÷1,5 bar
M20D51	IM22F*	-	-	1578501	5 mm	G 1/2	0,612	0÷1,5 bar
M20E71	IM22F*	-	-	1578501	7 mm	G 3/4	1	0÷0,7 bar

* bobina in c.c.

SERVO-ASSISTED DIAPHRAGM NORMALLY CLOSED VALVE BODIES

- Solenoid valves suitable for large flow capacity, suitable for water, air, fuel-oil, inert gases and other non-corrosive for copper alloys fluids with viscosity up to 2° Engler.
- 2-way normally closed.
- Indirect operation with servo-diaphragm blocked.
- Female threaded fittings from G3/8 to G 2.
- Upstream media enters the space above the membrane, pressing it against the seat, preventing the flow. When the coil is energized, the pilot plug opens discharging the flow, therefore the media lifts the membrane disc allowing the flow
- Stamped brass valve body.
- Stainless steel internal parts (17%CR).
- NBR seals (BUNAN)-VITON.
- With coil in dc the maximum pressure indicated in the table is reduced by 60%.
- Operating temperature range -10 ÷ 90 °C.
- Minimum operating pressure 0,1 bar.

CODE	ORIFICE DIAMETER	FEMALE UNION	KV m^3/h	CLOSING TIME DP OF 1 bar	MAXIMUM DIFFERENTIAL PRESSURE	TEST PRESSURE (DIN2401) PN
M23C13	13 mm	G 3/8	3	1 sec.	20 bar	25 bar
M23D13	13 mm	G 1/2	3	1 sec	20 bar	25 bar
M23E20	20 mm	G 3/4	8,4	1,5 sec	20 bar	25 bar
M23F25	25 mm	G 1	9,6	1,5 sec	20 bar	25 bar
M23G35	35 mm	G 1 1/4	25,2	2,5 sec	10 bar	16 bar
M23H40	40 mm	G 1 1/2	30	3 sec	10 bar	16 bar
M23I50	50 mm	G 2	37,2	3,5 sec	10 bar	16 bar

SERVO-ASSISTED DIAPHRAGM NORMALLY OPENED VALVE BODIES

- Solenoid valves suitable for large flow capacity, suitable for water, air, fuel-oil, inert gases and other fluids non-corrosive for copper alloys, with viscosity up to 2° Engler.
- 2-way normally open.
- Indirect operation with servo-diaphragm blocked.
- Female threaded fittings from G3/8 to G 2.
- Media enters the space above and under the membrane. When the coil is energized, the pilot plug closes and the upstream media enters the space above the membrane, pressing it against the seat, preventing the flow.
- Stamped brass valve body.
- Stainless steel internal parts (17%CR).
- NBR seals (BUNAN)-VITON.
- Operating temperature range -10 ÷ 90.
- Minimum operating pressure 0,1 bar

CODE	ORIFICE DIAMETER	FEMALE UNION	KV m^3/h	CLOSING TIME DP OF 1 bar	MAXIMUM DIFFERENTIAL PRESSURE	TEST PRESSURE (DIN2401) PN
M29C13	13 mm	G 3/8	3	1 sec.	20 bar	25 bar
M29D13	13 mm	G 1/2	3	1 sec	20 bar	25 bar
M29E20	20 mm	G 3/4	8,4	1,5 sec	20 bar	25 bar
M29F25	25 mm	G 1	9,6	1,5 sec	20 bar	25 bar
M29G35	35 mm	G 1 1/4	25,2	2,5 sec	10 bar	16 bar
M29H40	40 mm	G 1 1/2	30	3 sec	10 bar	16 bar
M29I50	50 mm	G 2	37,2	3,5 sec	10 bar	16 bar

COILS FOR SOLENOID VALVE BODIES

- Coils suitable for all the listed valves.
- IM21: when used at 60 Hz, pressure values reported in the tables should be reduced by approx. 12%.
- IM22: when used in DC, pressure values reported in the tables should be reduced by approx. 60%.
- IM29: when used at 60 Hz, pressure values reported in the tables should be reduced by approx. 12%.
- All coils are produced with copper wire in H class (180° C).
- 30% glass fibre thermoplastic body, insulation class F (155° C) suitable for continuous duty (100 % ED).
- Maximum ambient temperature: 80°C.
- Voltage tolerance : +-10% in AC and +10-5 % in DC.
- Electrical connector over 2P+ DIN 43650 socket.
- Compliance with standards EN 60335-1.
- Protection level IP65.

CODE	SUITABLE FOR:	POWER SUPPLY	COIL CURRENT INRUSH - HOLDING	ACTIVE POWER
IM21	M20-M23	F 24Vca 50-60Hz H 115Vca 50-60Hz M 230Vca 50-60Hz	25 VA 16VA	9 W
IM22	M20-M23	24Vc.c.		12 W
IM29	M29	F 24Vca 50-60Hz M 230Vca 50-60Hz	33 VA 25VA	14 W

CONNECTOR FOR IM2.. COILS

- Push on connector in compliance with DIN 43650, suitable for all coils IM2..
- Cable gland PG11.

CODE	DESCRIPTION
1578501	Rotational connector DIN 43650 for IM2 range coils

KITS WITH ELECTROMECHANICAL GEARED MOTORS FOR ROLLER SHUTTERS AND SUNBLINDS

- Tubular geared motors with limit switch for operating roller shutters.
- Type of cable: H05VVF white.
- Cable length: 2.5 metres
- Conductor: 4x 0.75 mm^2.
- Power supply 230Vac 50Hz.
- Protection level IP44.
- Compliance with Standards: EN 55014-1-2 EN 50082-1 / EN 61000-3-2 EN 61000-3-3 / EN 60335-1 / EN 60335-2.

CODE	TORQUE	MAX LOAD	OUTPUT SPEED giri/min	LIMIT SWITCH	CONTINUATIVE OPERATING TIME	POWER	ELECTRICAL INPUT
OT10	10 Nm	19 Kg*	17	0 ÷ 27	4 min	140 W	0,61 A
OT15	15 Nm	29 Kg*	17	0 ÷ 27	4 min	180 W	0,78 A
OT20	20 Nm	39 Kg*	17	0 ÷ 27	4 min	195 W	0,84 A
OT25	25 Nm	48 Kg*	17	0 ÷ 27	4 min	215 W	0,93 A
OT35	35 Nm	68 Kg*	17	0 ÷ 27	4 min	260 W	1,14 A
OT40	40 Nm	78 Kg*	12	0 ÷ 27	4 min	265 W	1,14 A
OT50	50 Nm	98 Kg*	12	0 ÷ 27	4 min	300 W	1,28 A
COMPLETE KIT (see accessories specified below)							
OK10	10 Nm	19 Kg*	17	0 ÷ 27	4 min	140 W	0,61 A
OK20	20 Nm	39 Kg*	17	0 ÷ 27	4 min	195 W	0,84 A
OK35	35 Nm	68 Kg*	17	0 ÷ 27	4 min	260 W	1,14 A
OK50	50 Nm	98 Kg*	12	0 ÷ 27	4 min	300 W	1,28 A
GEAR MOTOR WITH EMERGENCY OPERATION							
OT25MS	25 Nm	48 Kg*	17	0 ÷ 27	4 min	215 W	0,93 A
OT40MS	40 Nm	78 Kg*	12	0 ÷ 27	4 min	265 W	1,14 A
OT50MS	50 Nm	98 Kg*	12	0 ÷ 27	4 min	300 W	1,28 A

* valore calcolato con rullo diametro 60

ACCESSORIES INCLUDED IN THE COMPLETE KITS

- geared motor installation accessories.
- 1 roller **120÷155 cm**+ telescopic + cap.
- 1 forked bearing support.
- 1 bearing.
- 1 "L" bracket for the forked bearing support.
- 1 wall bearing support.
- 3 connections for belt.
- 2 self-tapping screws with washers (4,2x16 mm)
- 6 belt fasteners.
- 3 screw anchors for the wall bearing support.
- 3 pieces of belt for rolling shutters.
- Roller may be cut for narrower rolling shutters.

ACCESSORIES AVAILABLE FOR ALL MODELS

1573037	Bearing, Ø12 mm	**1573042**	Nose ring, Ø70 mm, for sunblinds
1573038	Octagonal ring, Ø60 mm, for roller shutter slats	**1573043**	Nose pulley, Ø70 mm, for sunblinds
1573039	Octagonal pulley, Ø60 mm, for roller shutter slats	**1573044**	Nose ring, Ø78 mm, for sunblinds
1573040	Octagonal ring, Ø70 mm, for roller shutter slats	**1573045**	Nose pulley, Ø78 mm, for sunblinds
1573041	Octagonal pulley, Ø70 mm, for roller shutter slats		

SEQUENTIAL CONTROL UNIT FOR MOTORIZED ROLLING SHUTTERS

- To control from 2 to 10 motors with a sequential system, that is one motor after another at pre-established intervals, to prevent excessive electric absorption at the same time.

A timer may also be connected for timed control of closing and opening or a remote control used for long distance control.

CODE	DESCRIZIONE
OCS1	Sequential control unit for 2 motors
1573505	Expansion module for 1 motors (maximum of 8 modules.)

CONTROL UNIT

- The control unit allows simultaneous operation and control of several motors, by general control or by individual control.
- For general control, motors are operated by a push-button (pulse function) or by an auxiliary control (radio control or other).
- Terminal section: 2.5 mm²
- Power supply 230Va.c.± 10% 50Hz.
- Max. output current:10 (4)A.
- Compliance with Standards: EN60335-1 - EN60335-2 - EN55014-1 - EN55014-2 EN61000-3-2 EN61000-3-3
- Contact operating time: 2.5 min. where provided.
- Contact voltage: 5/6/7 230Va.c. 50Hz.
- All modules are compatible with protection control units: OCV1A, OCSV1A, OCVP1, OCM1A, OCR1

CODE	POWER SUPPLY	SWITCH CONTACT RATING	NUMBER OF CONTROLLED MOTORS	PROTECTION LEVEL
OMC1*	230vac 50Hz	4 A	1	IP44
OMC2	230vac 50Hz	4 A	2	IP44
OMC3	230vac 50Hz	4 A	3	IP44
OMC4	230vac 50Hz	4 A	4	IP44
OMC5	230vac 50Hz	4 A	5	IP56

*Possibilità di montaggio in custodia da parete o scatola tonda da incasso.

RADIO CONTROL UNIT FOR GEARED MOTOR

- OCR1 is a versatile radio electronic control unit suitable for covering a wide range of applications, from the control of electronic or electromechanical tubular geared motors for roller shutters or blinds to the control of lighting systems or other electric equipment and devices.
- Control unit programming is friendly and intuitive, it only uses 3 dep-switches set inside the control unit. OCR1 accepts radio commands via remote control or cable, by means of two push-buttons directly connected to the control unit terminals.
- Power supply: 230V~.
- Max. output current: 10(4)250V~.
- Reception frequency: 433.92 Mhz.
- Operating temperature: -10 ÷ 60°C.

- **TRANSMITTER**
- Power supply (alkaline battery GP23A): 12V.
- Carrier frequency: 433,92 MHz AM / ASK.
- Operating temperature: -10 ÷ 55°C.
- Compliance with Standards: EN 60335-2.

CODE	POWER SUPPLY	SWITCH CONTACT RATING	OPERATING TEMPERATURE	PROTECTION LEVEL
OCR1	230Vac 50Hz	10(4)250V~	-10 ÷ 60	IP56

WIND AND RAIN GUARD CONTROL UNIT

- The OCVP1 control unit is suitable to control a motor or a group of motors (through the control units provided for the purpose), according to wind speed or rain intensity.
- Control is implemented by means of a switch to be connected to the control unit.
- Box material: ABS.
- Box colour: grey.
- Dimensions: 120x80x50 mm.
- Resettable card fuse.
- Power supply: 230Vac 50Hz.
- Max. relay rating: 250Vac 4A with cosφ 0.4.
- Compliance with Standards: EN60335-1 - EN60335-2 - EN55014-1 - EN55014-2 EN61000-3-2 EN61000-3-3

CODE	POWER SUPPLY	SWITCH CONTACT RATING	WIND ALARM REGULATION RANGE	OPERATING TEMPERATURE	PROTECTION LEVEL
OCVP1	230Vac 50Hz	4 A	1 ÷35 Km/h	-10 ÷ 60 °C	IP56

WIND GUARD CONTROL UNIT

- The OCV1A control unit is suitable to control an electromechanical geared motor for sunblinds in the event of hard wind.
- In the event of wind alarm (anemometer activation), with stable switch pressed down, the OCV1A control unit will close the sunblind, which however will reopen 8 minutes after the alarm stops.
- The OCV1A guard control operates like a switch, connected to the control unit by means of the 3 wires.
- Operating temperature -10 ÷ 60°C.
- Box material ABS.
- Resettable card fuse.
- Protection level IP56.
- Power supply 230Vac 50Hz.
- Max. relay rating: 250Vac 4A.
- Compliance with Standards: EN60335-1 - EN60335-2 - EN55014-1 - EN55014-2 EN61000-3-2 EN61000-3-3
- Box dimensions: 120x80x50 mm.

CODE	POWER SUPPLY	MAXIMUM OUTPUT CURRENT	WIND ALARM REGULATION RANGE	OPERATING TEMPERATURE	PROTECTION LEVEL
OCV1A	230Vac 50Hz	4 A	1 ÷35 Km/h	-10 ÷ 60 °C	IP56

SUN AND WIND GUARD CONTROL UNIT

- The OCSV1A control unit is suitable to control an electromechanical geared motor for sunblinds and it features sunlight intensity control and hard wind protection function.
- The OCSV1A guard control operates like a switch, connected to the control unit by means of the 3 wires.
- Wind threshold is controlled by means of a Dip Switch.
- Sun threshold is controlled by means of a trimmer.
- Box material: ABS.
- Box dimensions: 120x80x50 mm.
- Power supply 230Vac 50Hz.
- Max. relay rating: 250Vac 4A.
- Compliance with Standards: EN60335-1 - EN60335-2 - EN55014-1 - EN55014-2 EN61000-3-2 EN61000-3-3

CODE	POWER SUPPLY	MAXIMUM OUTPUT CURRENT	WIND ALARM REGULATION RANGE	BRIGHTNESS REGULATION RANGE	PROTECTION LEVEL
OCSV1A	230Vac 50Hz	4 A	5 ÷ 40Km/h	0÷ 50 Klux	IP56

SUN, WIND AND RAIN GUARD CONTROL UNIT

- The OCM1A control unit is suitable to control an electromechanical geared motor for sunblinds and it features sunlight intensity control and hard wind and rain protection function.
- The OCM1A guard control operates like a switch, connected to the control unit by means of the 3 wires.
- Wind threshold is controlled by means of a Dip Switch.
- Sun threshold is controlled by means of a trimmer.
- Box material: ABS.
- Box dimensions: 120x80x50 mm.
- Power supply 230Vac 50Hz.
- Rain sensor supply voltage: 12Vdc .
- Max. relay rating: 250Vac 4A.
- Protection level IP56.
- Compliance with Standards: EN60335-1 - EN60335-2 - EN55014-1 - EN55014-2 EN61000-3-2 EN61000-3-3

CODE	POWER SUPPLY	CORRENTE MAX USCITA	WIND ALARM REGULATION RANGE	BRIGHTNESS REGULATION RANGE	RAIN SENSOR POWER SUPPLY
OCM1A	230Vac 50Hz	4 A	5 ÷ 40Km/h	0÷ 50 Klux	12Vdc

ELECTRONIC CONTROL UNIT FOR 3 ZONE GAS DETECTION

- The P30 electronic control centre is used for the detection of gas leaks in industrial environments using specific sensors (S71 for natural gas, S72 for cylinder gas, LPG) and is suitable for the control and signalling of the presence of natural gas, city gas, LPG, cylinder gas, etc. in the air.
- Wall flush mounted, or remote.
- **Internal alarms**
  - Instant: visual with zone indicators (red LEDS)
  - Delayed: audible and visual
- **External alarms**
  two relays with SPDT voltage free contacts, are available for:
  - controlling the gas cut-off valve
  - controlling an external audible alarm
  - other safety devices
- Compliance with standards CEI EN 60730-1.
- Power supply 230 V - 50 Hz or 12Vc.c.
- Consumption 15 VA.
- Output via 2 electromagnetic relays with voltage free contacts.
- Switch contact rating 5 A - 250V~ (Ohmic load).
- Max lenght connection for each probe: 200mt.

CODE	ALARM DELAY ADJUSTMENT	DETECTION SENSOR	POWER SUPPLY	PROTECTION LEVEL
P30A	0 ÷ 60 sec.	3	230V-50Hz 0 12Vc.c.	IP40

ELECTRONIC CONTROL UNIT FOR 5 ZONE GAS DETECTION

- The P70 electronic control centre is used for the detection of gas leaks in industrial environments using specific sensors (S71 for natural gas, S72 for cylinder gas, LPG) and is suitable for the control and signalling of the presence of natural gas, LPG, cylinder gas in the air.
- DIN rail mounting (9 modules)
- **Internal alarms**
  Instant, visual with zone indicators (red LEDS) and acoustic indicator.
- **External alarms**
  two relayswith SPDT voltage free contacts, are available for:
  - controlling the gas cut-off valve
  - controlling an external audible alarm
  - other safety devices
- Compliance with standards CEI EN 60730-1.
- Power supply 230 V - 50 Hz or 12Vc.c.
- Switch contact rating 5 A - 250V~ (Ohmic load).
- Max lenght connection for each probe: 50 mt.

CODE	POWER SUPPLY	DETECTION SENSOR	OPERATING TEMPERATURE	PROTECTION LEVEL
P70	12Vac o 12/14Vdc	5	-10 ÷50 °C	IP40

DETECTION SENSORS FOR CONTROLLERS P30A AND P70

- Sensors used with electronic detector P30 (3 detection areas) and P70 for DIN bar (5 detection areas), available in two versions :
  - S71 for natural gas and light gas
  - S72 for LPG (heavy gas).
- Combustible gas detection probes to be used with P30A electronic detectors (3 detection points) and P70 for DIN rail (5 detection points).
- Provided with LED to indicate triggering and positive safety connections with the control unit (their cut-out causes triggering of the detector)
- S71-S72 has 3 indicator LEDs:
  - Green LED to indicate power supply
  - Red LED to indicate triggering.
  - Orange LED to indicate sensor fault.

CODE	DESCRIPTION	OPERATING TEMPERATURE	PROTECTION LEVEL
S71	Probe for methane	-10 ÷ 50°C	IP54
S72	Probe for LPG (liquid gas in bottles)	-10 ÷ 50°C	IP54

Sicurgas P61A GAS LEAK DETECTORS FOR METHANE For civil ambients

- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly
  - yellow LED to indicate a fault in the detector
  - red LED to indicate the presence of gas in the environment (ALARM)
- Via a relay the detector controls both the normally closed (NC) and the normally open (NO) manual reset valves.
- Fixing holes suitable for 3 module flush mounting boxes.
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 6(2)A-250V~.
- P61AE

CODE	POWER SUPPLY	OPERATING TEMPERATURE	SILENCER BUTTON	PROTECTION LEVEL
COMPLIANCE WITH IMQ				
P61A	230V~50Hz	0 ÷ 40 °C	YES	IP42
COMPLIANCE WITH EN 50194 (WITHOUT SILENCER BUTTON)				
P61AE	230V~50Hz	0 ÷ 40 °C	NO	IP42

KIT INCLUDING A GAS LEAK DETECTOR AND A MANUAL RESET GAS VALVE
See valve codes and specifications of valves on pages 46 and 47

Sicurgas P62A CARBON MONOXIDE DETECTOR For civil ambients

- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly
  - yellow LED to indicate a fault in the detector
  - red LED to indicate the presence of gas in the environment (ALARM)
- Via a relay the detector controls both the normally closed (NC) and the normally open (NO) manual reset valves.
- Silencer button to inhibit the audible alarm and valve control for about 10 minutes; after this time Sicurgas returns to normal operation.
- Fixing holes suitable for 3 module flush mounting boxes.
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 6(2)A-250V~.

CODE	POWER SUPPLY	OPERATING TEMPERATURE	PROTECTION LEVEL
P62A	230V~50Hz	0 ÷ 40 °C	IP42

Sicurgas P63 CARBON MONIXIDE DETECTOR For civil ambients

- The P63 detector is triggered with concentrations of carbon monoxide gas considered harmless for a human adult in normal physical conditions even if breathed for hours.
- In the case of triggering, Sicurgas P63 immediately activates internal alarms with red LED and audible alarm.
- Simultaneously to the visible and audible alarms, a relay with SPDT contacts is triggered to control an aerator which supplies fresh air from outside.
- Additional audible alarm.
- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly.
  - yellow LED to indicate a fault in the detector.
  - red LED to indicate the presence of gas in the environment (ALARM).
- Fixing holes suitable for 3 module flush mounting boxes.
- Semiconductor sensor for carbon monoxide detection.
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 5(3) A - 250V~

CODE	POWER SUPPLY	RELATIVE HUMIDITY RANGE	OPERATING TEMPERATURE	PROTECTION LEVEL
P63	230V~50Hz	30 ÷ 80% UR	0 ÷ 40 °C	IP42

Sicurgas P71 - FLUSH MOUNTING GAS LEAK DETECTORS WITH 3 MODULES FOR METHANE For civil ambients

- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly
  - yellow LED to indicate a fault in the detector
  - red LED to indicate the presence of gas in the environment (ALARM)
- Via a relay the detector controls both the normally closed (NC) and the normally open (NO) manual reset valves.
- Flush mounting in recessed boxes with 3 modules type 503 via 2 screws (provided)..
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 5(3)A-250V~.

The following plates can be fitted BTICINO Living - Living di transizione - Light - Light Tech - Axolute **VIMAR** Idea - Rondò - Plana **GEWISS** Playbus - Playbus Young **AVE** sistema 45 - Noir - Blanc - Banquise, Ave Yes **Siemens** Delta Futura Graphit **Legrand** Cross

P71 ANTHRACITE
P71B WHITE
P71C SILVER

CODE	POWER SUPPLY	OPERATING TEMPERATURE	PROTECTION LEVEL
P71	230V~50Hz	0 ÷ 40 °C	IP42

Sicurgas P72 - FLUSH MOUNTING GAS LEAK DETECTORS WITH 3 MODULES FOR LPG For civil ambients

- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly
  - yellow LED to indicate a fault in the detector
  - red LED to indicate the presence of gas in the environment (ALARM)
- Via a relay the detector controls both the normally closed (NC) and the normally open (NO) manual reset valves.
- Silencer button to inhibit the audible alarm and valve control for about 10 minutes; after this time Sicurgas returns to normal operation.
- Flush mounting in recessed boxes with 3 modules type 503 via 2 screws (provided)..
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 5(3)A-250V~

The following plates can be fitted BTICINO Living - Living di transizione - Light - Light Tech - Axolute **VIMAR** Idea - Rondò - Plana **GEWISS** Playbus - Playbus Young **AVE** sistema 45 - Noir - Blanc - Banquise, Ave Yes **Siemens** Delta Futura Graphit **Legrand** Cross

CODE	POWER SUPPLY	OPERATING TEMPERATURE	PROTECTION LEVEL
P72	230V~50Hz	0 ÷ 40 °C	IP42

Sicurgas P73 - RIVELATORI DI MONOSSIDO DI CARBONIO DA INCASSO 3 MODULI. Per ambienti civili

- The P63 detector is triggered with concentrations of carbon monoxide gas considered harmless for a human adult in normal physical conditions even if breathed for hours.
- In the case of triggering, Sicurgas P63 immediately activates internal alarms with red LED and audible alarm.
- Simultaneously to the visible and audible alarms, a relay with SPDT contacts is triggered to control an aerator which supplies fresh air from outside.
- Additional audible alarm.
- Sicurgas has 3 indicator leds:
  - green LED to indicate that the detector is operating correctly.
  - yellow LED to indicate a fault in the detector.
  - red LED to indicate the presence of gas in the environment (ALARM).
- Flush mounting in recessed boxes with 3 modules type 503 via 2 screws (provided.
- Semiconductor sensor for carbon monoxide detection.
- Compliance with standards CEI EN 60730-1.
- Switch contact rating 5(3) A - 250V~

The following plates can be fitted BTICINO Living - Living di transizione - Light - Light Tech - Axolute **VIMAR** Idea - Rondò - Plana **GEWISS** Playbus - Playbus Young **AVE** sistema 45 - Noir - Blanc - Banquise, Ave Yes **Siemens** Delta Futura Graphit **Legrand** Cross

CODE	POWER SUPPLY	RELATIVE HUMIDITY RANGE	OPERATING TEMPERATURE	PROTECTION LEVEL
P73	230V~50Hz	30 ÷ 80% UR	0 ÷ 40 °C	IP42

ELECTROMAGNETIC GAS SAFETY VALVE

- Fast opening, normally closet safety solenoid valve for air and non-aggressive gases (according to EN437).
- When in the rest position the spring acts on the shutter and keeps the gas passage closed. When the coil is powered the valve opens. When the power supply is switched off the valve closes quickly.
- This device is suitable for shutting off or regulating gas or air in burners at atmospheric pressure or with blown air, in industrial ovens and in all applications that include the use of solenoid valves for gas (suitable for continuous service 100% ED).
- Ambient temperature: -15°C / +60°C.
- Closing time < 1 second.
- Protection level IP54.
- Cable gland PG9.
- G1/4" pressure sockets on two sides (excluding models with brass casing).
- Type of gas: air and non-aggressive gases
- (EN437).
- Filter 600μm (excluding models with brass casing)
- Nominal voltage 230V AC 50/60 Hz
- Upon request valves are available with coils for the following voltages:
  - 110V AC 50/60 Hz
  - 24V AC/DC
  - 12V AC/DC

CODE	ND PASSAGE	CONNECTION TYPE	CASING	MAXIMUM PRESSURE	ABSORPTION	UNIT WEIGHT
ZDEV10	10	thread RP 3/8	brass	200 mbar	16 W	0,4 Kg
ZDEV15	15	thread RP 1/2	brass	200 mbar	16 W	0,4 Kg
ZDEV20	20	thread RP 3/4	aluminium	360 mbar	45 W	2,5 Kg
ZDEV25	25	thread RP 1	aluminium	360 mbar	45 W	2,5 Kg
ZDEV32	32	thread RP 1 1/4	aluminium	360 mbar	20/80* W	5,7 Kg
ZDEV40	40	thread RP 1 1/2	aluminium	360 mbar	20/80* W	5,7 Kg
ZDEV50	50	thread RP 2	aluminium	360 mbar	20/80* W	6 Kg
ZDEVRF65	65	flange DN 65	aluminium	200 mbar	45/180* W	14 Kg
ZDEVRF80	80	flange DN 80	aluminium	200 mbar	45/180* W	14 Kg
ZDEVRF100	100	flange DN 100	aluminium	200 mbar	70/280* W	36 Kg

* working / opening

NORMALLY OPENED SAFETY SOLENOID VALVE WITH MANUAL RESET

- Solenoid valves for air and non-aggressive gases (according to EN437), normally open with manual reset.
- The valve must be opened manually and the mechanism set to keep it open.
- Any voltage caused by a current in the line and/or a discharge from the condenser, induced by the leak detector, causes the mechanism to be released and the gas passage to be closed. If the sensor remains active due to the presence of gas, the valve remains powered and cannot be reset. Once the cause of the stoppage has been eliminated the valve can be reopened manually. This type of device, used in connection with one or more gas leak detector(s) or alarm signals for the presence of carbon dioxide, is suitable for activating shutting off of the gas line.
- Voltage tolerance: -15% / + 10%
- Room temperature: -15°C / +60°C
- Closing time < 1 second
- Cable gland PG9
- G1/4" pressure sockets on two sides (excluding models with brass casing).
- 3/4" to 4" limiting switch upon request
- 600 μm filter (excluding models with brass casing)
- Nominal voltage 230V AC 50/60 Hz
- Upon request, valves are available with coils for the following voltages:
  - 110V AC 50/60 Hz
  - 24V AC/DC
  - 12 V AC/DC

CODE	ND PASSAGE	CONNECTION TYPE	CASING	MAXIMUM PRESSURE	ABSORPTION	UNIT WEIGHT
ZDVGRM15NA	15	thread RP 1/2	brass	500 mbar	16 W	0,4 Kg
ZDVGRM20NA	20	thread RP 3/4	brass	500 mbar	16 W	0,6 Kg
ZDVGRM25NA	25	thread RP 1	brass	500 mbar	16 W	0,7 Kg
ZDEVRM32NA	32	thread RP 1 1/4	aluminium	500 mbar	16 W	1,6 Kg
ZDEVRM40NA	40	thread RP 1 1/2	aluminium	500 mbar	16 W	1,6 Kg
ZDEVRM50NA	50	thread RP 2	aluminium	500 mbar	16 W	1,9 Kg
ZDEVRMF65NA	65	flange DN 65	aluminium	500 mbar	19 W	8,2 Kg
ZDEVRMF80NA	80	flange DN 80	aluminium	500 mbar	19 W	8,2 Kg
ZDEVRMF100NA	100	flange DN 100	aluminium	500 mbar	19 W	16 Kg

NORMALLY CLOSED SAFETY SOLENOID VALVE WITH MANUAL RESET

- Solenoid valves for air and non-aggressive gases (according to EN437), normally closed with manual reset.
- When in the rest position the spring acts on the shutter and keeps the gas passage closed. When power is simply applied to the coil the valve does not open.
- The reset rod on top of the valve must be reset manually. Once open, the valve is able to stay in this position as long as there is current in the coil. If the current stops the valve closes quickly and when the power returns the valve stays closed.
- Once the cause of the stoppage has been eliminated, the valve must be opened manually as described above. This type of device, used with one or more pressure switch(es) is suitable for shutting off when there is no gas, air, or current and is suitable for continuous service (always live).
- Voltage tolerance: -15% /+10%.
- Room temperature: -15°C / +60°C.
- Closing time < 1 second.
- Protection level IP65.
- Cable gland PG9.
- G1/4" pressure sockets on two sides (excluding models with brass casing).
- 3/4" to 4" limiting switch upon request.
- Type of gas: air and non-aggressive gases (EN437).
- 600 μm filter (excluding models with brass casing).
- Nominal voltage 230V AC 50/60 Hz.
- Upon request, valves are available with coils for the following voltages:
  - 110V AC 50/60 Hz
  - 24V AC/DC
  - 12V AC/DC

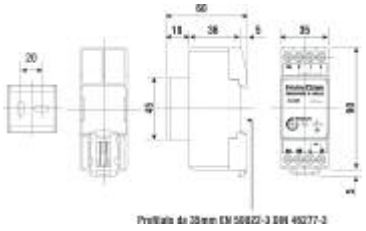
CODE	ND PASSAGE	CONNECTION TYPE	CASING	MAXIMUM PRESSURE	ABSORPTION	UNIT WEIGHT
ZDVGRM15NC	15	thread RP 1/2	brass	500 mbar	8 W	0,4 Kg
ZDVGRM20NC	20	thread RP 3/4	brass	500 mbar	8 W	0,6 Kg
ZDVGRM25NC	25	thread RP 1	brass	500 mbar	8 W	0,7 Kg
ZDEVRM32NC	32	thread RP 1 1/4	aluminium	500 mbar	12 W	2 Kg
ZDEVRM40NC	40	thread RP 1 1/2	aluminium	500 mbar	12 W	2 Kg
ZDEVRM50NC	50	thread RP 2	aluminium	500 mbar	12 W	2,3 Kg
ZDEVRMF65NC	65	flange DN 65	aluminium	500 mbar	25 W	7,6 Kg
ZDEVRMF80NC	80	flange DN 80	aluminium	500 mbar	25 W	7,6 Kg
ZDEVRMF100NC	100	flange DN 100	aluminium	500 mbar	45 W	17 Kg

DIGITAL TIMER FOR DIN RAIL MOUNTING

- Time switch with daily or weekly programmes and for universal use.
- User-friendly programming system, via 6 control buttons and a RESET key.
- On the liquid crystal display the following are read: hour, minutes, seconds, day of the week: MO (Monday) - TU (Tuesday)-WE (Wednesday) - TH (Thursday) - FR (Friday) - SA (Saturday) - SU (Sunday).
- Automatic or manual operation ON-OFF. 16 programmes (8 ON and 8 OFF).
- Can be programmed for individual days or blocks of days.
- Programmable minute-by-minute.
- Entered programmes can be checked.
- Manual switch-over to AUTO and ON or OFF permanently.
- LED to indicate the status of the contact.
- Charge of over 100 hours.
- Fast connection of the case to the 35 mm rail EN 50022-3 DIN 46277-3.
- Electronic unit in compact, modular (2 modules) shock-proof thermoplastic case, suitable for mounting several switches side by side.
- Transparent cover to protect the control buttons.
- 16 available memories (8 ON and 8 OFF).
- Clock precision ± 1 minute/month.
- TÜV approval.
- Power supply 220V-250V 50-60Hz.
- Consumption 4.4W.
- Output via SPDT electromagnetic relays with voltage free terminals.
- Contact rating 16(8)A-250V.
- Charge of over 200 hours with NIMH battery 1.2 V dc.

CODE	OPERATING TEMPERATURE	POWER SUPPLY	NO. MODULES	PROTECTION LEVEL
W04C	-10 ÷ 40 °C	230V 50-60Hz	2	IP30

LEVEL CONTROLS FOR LIQUIDS AND GRANULES



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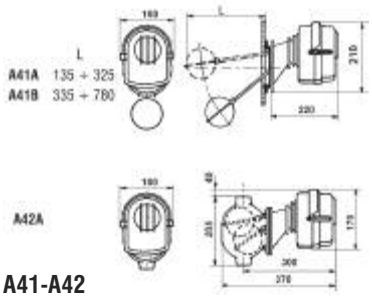

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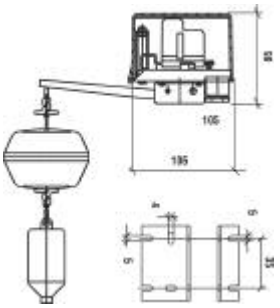

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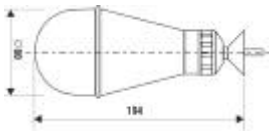

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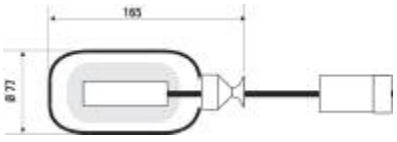

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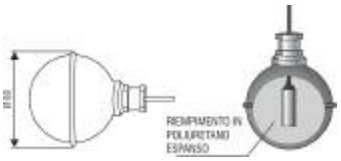

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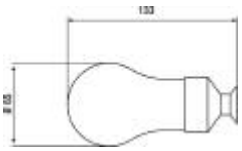

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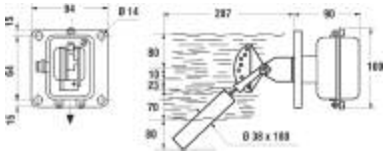

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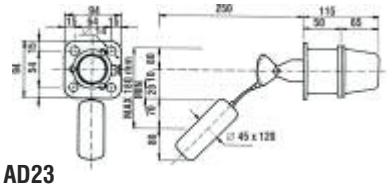

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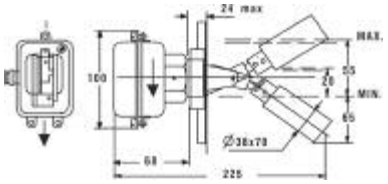

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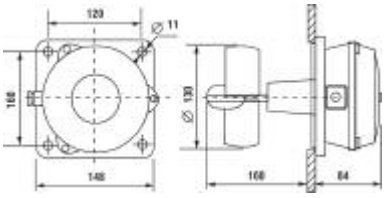

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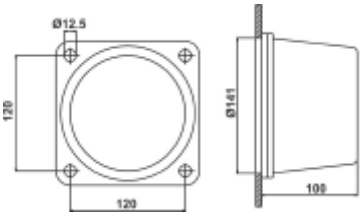
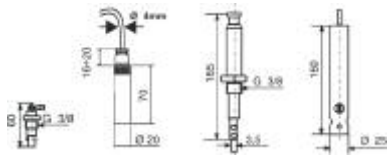
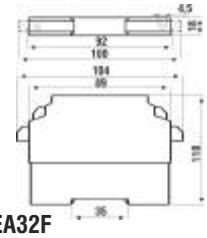


ASM2

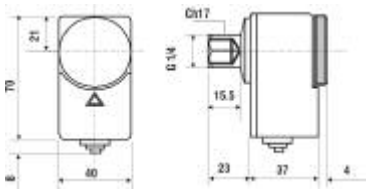


EA18-19-20-21



EA31M -EA32F

PRESSURE CONTROLS



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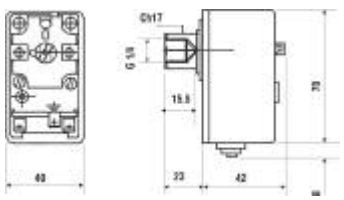

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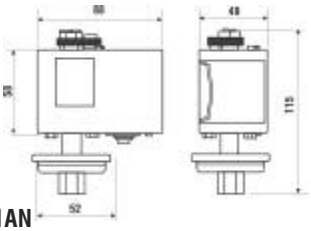

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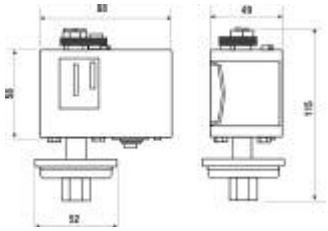

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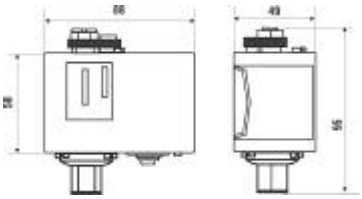

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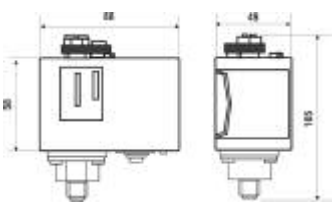

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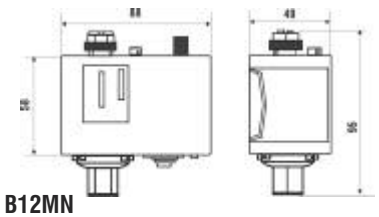

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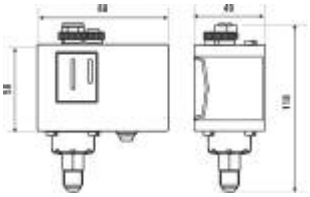
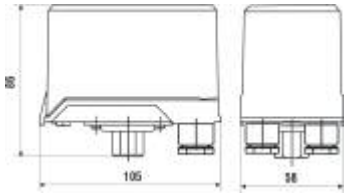
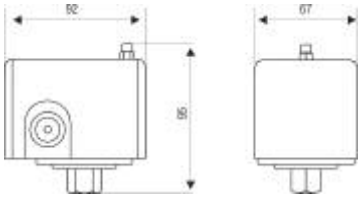


B13BN

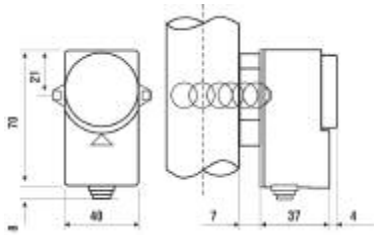


B70



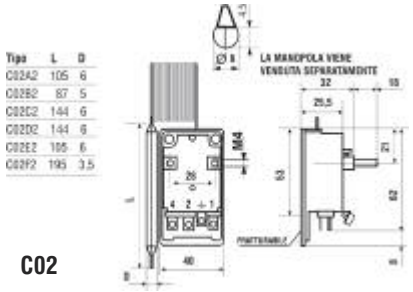
B71

TEMPERATURE AND HUMIDITY CONTROLS

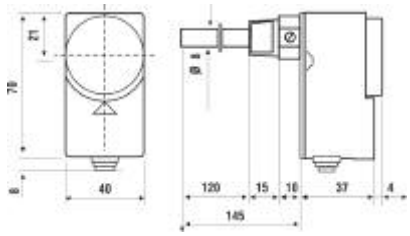


C01

Tipo	L	D
C02A2	105	6
C02B2	87	5
C02C2	144	6
C02D2	144	6
C02E2	105	6
C02F2	195	3,5

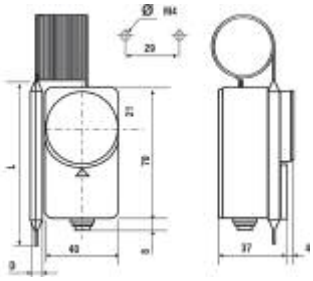


C02

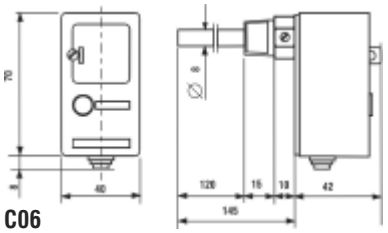


C03

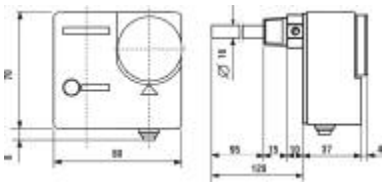
Tipo	L	D
C04A2	105	6
C04B2	87	5
C04C2	144	6,5
C04D2	144	6,5
C04E2	105	6,5
C04F2	195	3,5



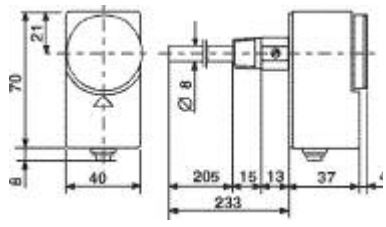
C04



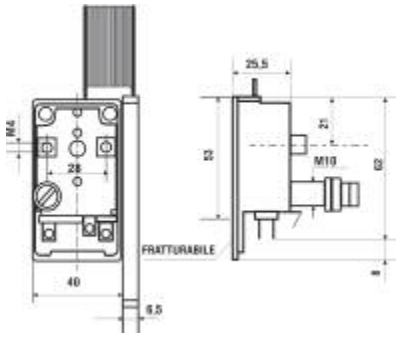
C06



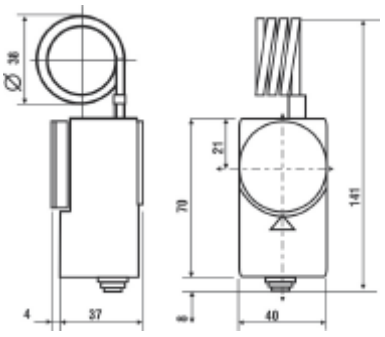
C07



C08

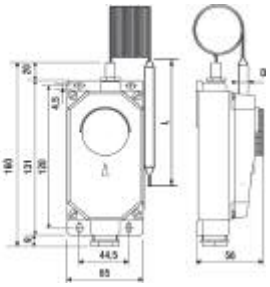


C09

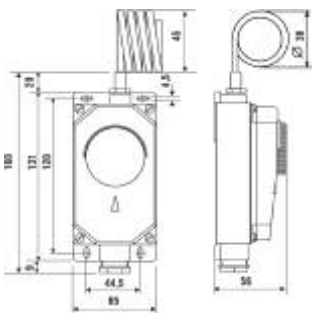


C10

Tipo	L	D
C04A2	105	6
C04B2	87	5
C04C2	144	6,5
C04D2	144	6,5
C04E2	105	6,5
C04F2	195	3,5

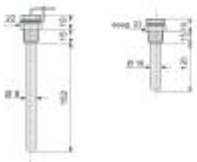


C04..Y

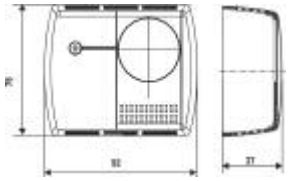


C010..Y

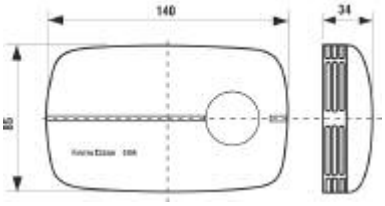
G23 G25 G27



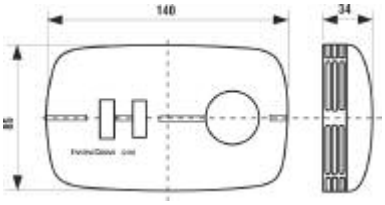
G28 G29



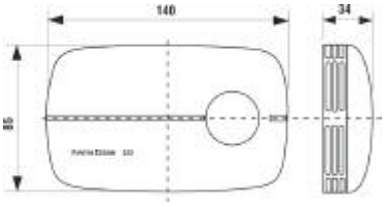
C16



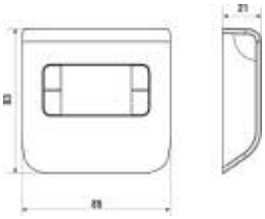
C40A



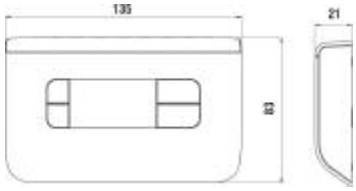
C41A



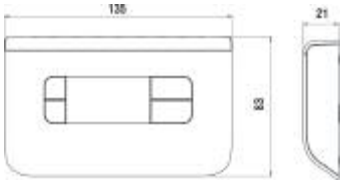
C43A



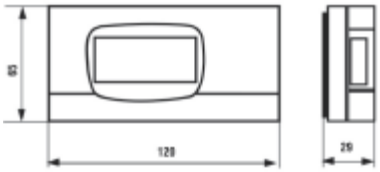
CH110



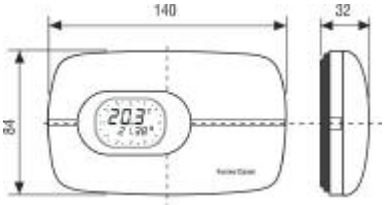
CH115



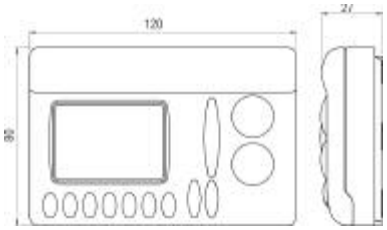
CH130



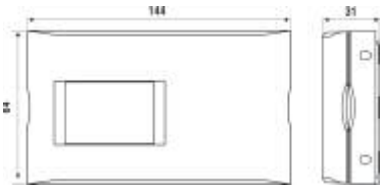
C31



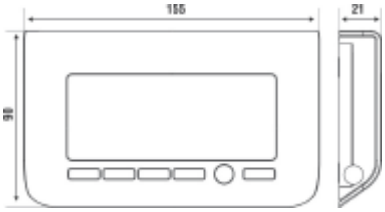
C46A



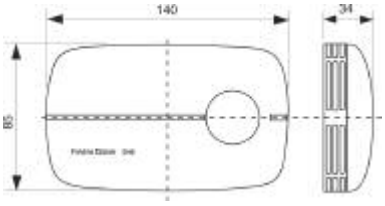
C55



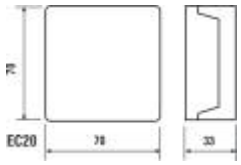
C75



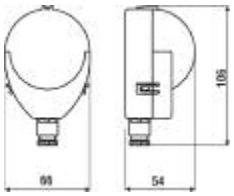
CH150



D40

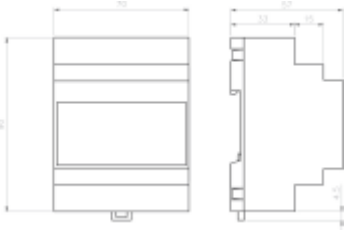


EC20

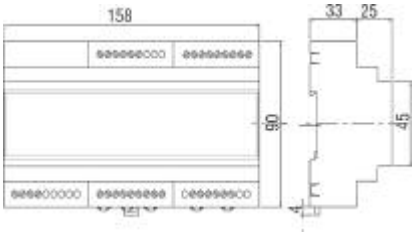


EC18

REMOTE CONTROL SYSTEMS

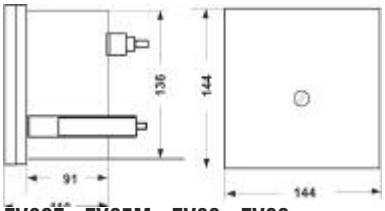


CT3M

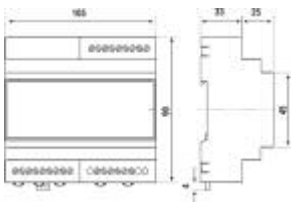


EV70A - EV70D

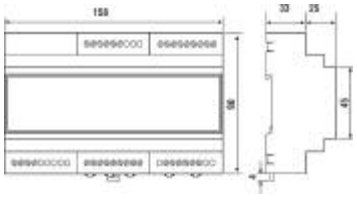
HEATING CONTROL THERMOREGULATION SYSTEMS - WATER METERING SYSTEMS



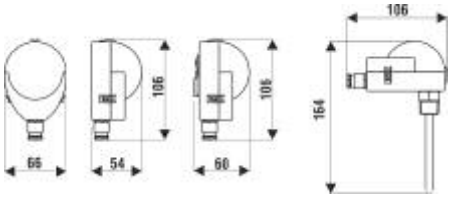
EV02F - EV05M - EV80 - EV90



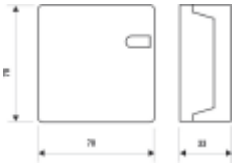
EV60 - EV SLAVE - EV84 - EV87



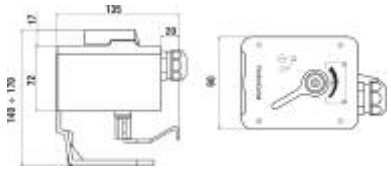
EV85



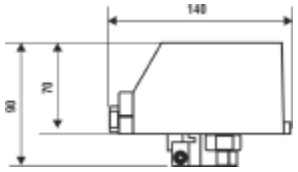
EC11-EC14 EC12-EC15 EC13-EC16



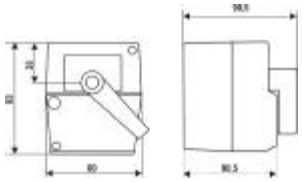
EC10



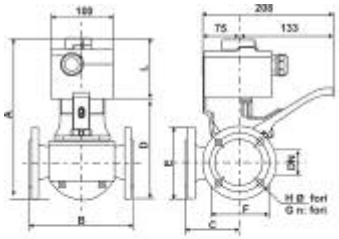
O24



O33



O34 - O35

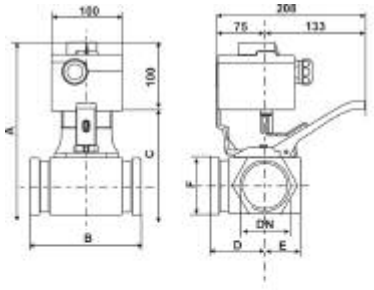


VALVOLE MISCELATRICI MOTORIZZATE A 3 VIE A ROTORE

Z61 + T01A + O24

DN	A	B	C	D	E	F	G	H
40	258	180	90	168	130	100	4	14
50	268	200	100	178	140	110	4	14
65	282	200	100	192	160	130	4	14
80	305	234	117	215	190	150	4	18
100	330	260	130	240	210	170	4	18

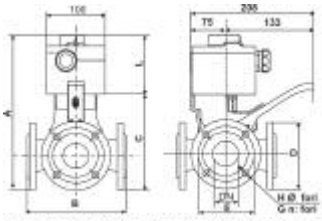
Z61



Z62 + T01A + O24

DN	A	B	C	D	E	F
G1	205	85	115	42,5	27	42
G1 1/4	222	122	132	61	39	60
G1 1/2	225	135	135	67,5	40	65
G2	236	180	146	90	53	82

Z62

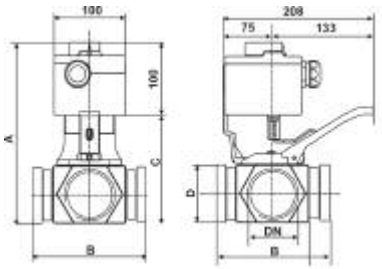


VALVOLE MISCELATRICI MOTORIZZATE A 4 VIE A ROTORE

Z63 + T01A + O23

DN	A	B	C	D	E	F	G
40	58	180	168	130	100	4	14
50	268	200	178	140	110	4	14
65	282	200	192	160	130	4	14
80	305	234	215	190	150	4	18
100	330	260	240	210	170	4	18

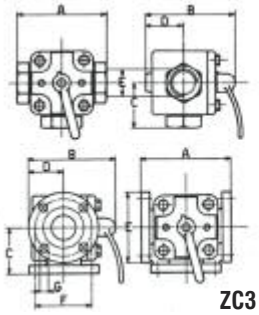
Z63



Z64 + T01A + O23

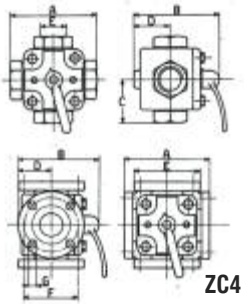
DN	A	B	C	D
G1	205	85	115	42
G1 1/4	222	122	132	60
G1 1/2	225	135	135	65
G2	236	180	146	82

Z64



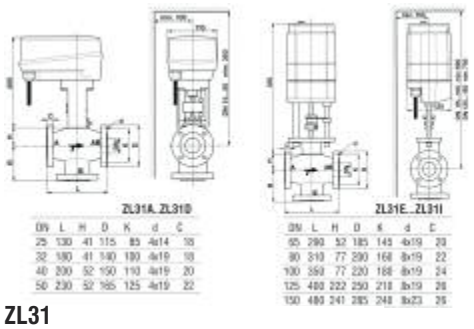
ZC3

ATTACCHI	A	B	C	D	E	F	G
3/4"	110	105	55	26	25	-	-
1"	110	117	55	35	31	-	-
1 1/4"	130	126	63	37	40	-	-
1 ½"	130	130	65	40	45	-	-
40	180	155	90	65	130	100	14
50	180	170	90	70	140	110	14
60	200	185	100	80	160	130	14
80	230	205	112	95	190	150	18
100	260	225	130	105	210	170	18
125	320	305	160	120	240	200	18
150	350	340	175	132	265	225	18

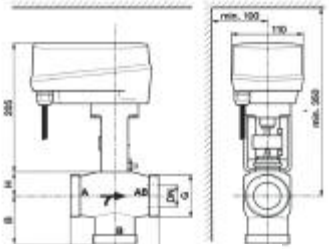


ZC4

ATTACCHI	A	B	C	D	E	F	G
3/4"	110	122	55	40	25	-	-
1"	110	122	55	40	31	-	-
1 1/4"	130	145	65	55	40	-	-
1 ½"	130	145	65	55	45	-	-
40	180	155	90	65	130	100	14
50	180	165	90	70	140	110	14
65	200	185	100	80	160	130	14
80	230	215	115	95	190	150	18
100	260	225	130	105	210	170	18



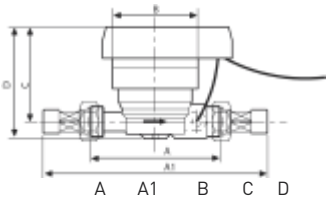
ZL31



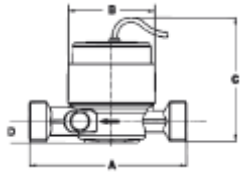
Dimensioni (mm)

DN	L	B	H	G
15	80	40	27	1"
20	80	55	26	1" ¼
25	95	60	26	1" ½
32	112	66	32	2
40	132	75	36	2" ¼
50	160	85	42	2" ¾

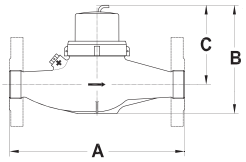
ZL30



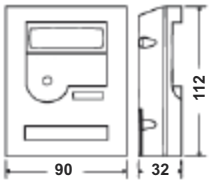
	A	A1	B	C	D
ECC15AC	110	190	75X110	76	95
ECC15C	110	190	75X110	76	95
ECC20C	130	228	75X110	76	97,5



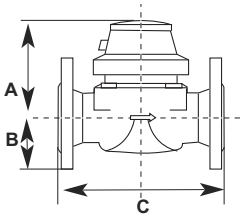
	A	B	C	D
ECC15AGS	0	72	108	18
ECC15GS	110	72	108	18
ECC20GS	130	72	108	18



	A	B	C
ECC15GM	165	143	100
ECC20GM	220	149	109
ECC25GM	260	159	116
ECC32GM	260	159	116
ECC40GM	300	185	139
ECC50GM	300	199	142

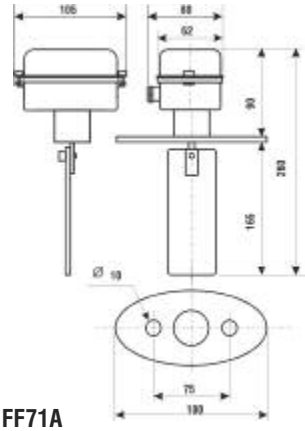


ECCM..

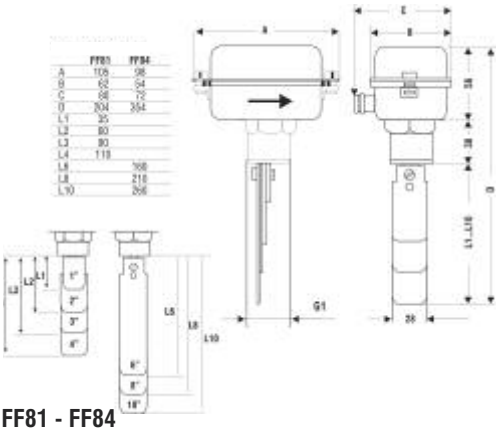


	A	B	C
ECC50W	120	73	200
ECC65W	120	85	200
ECC80W	150	95	225
ECC100W	150	105	250
ECC125W	160	118	250

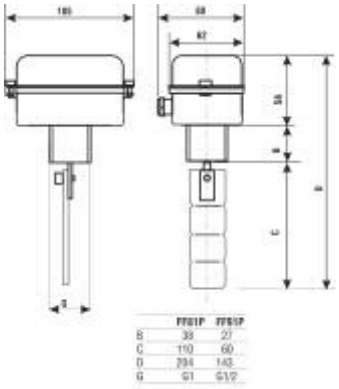
FLOW CONTROLS



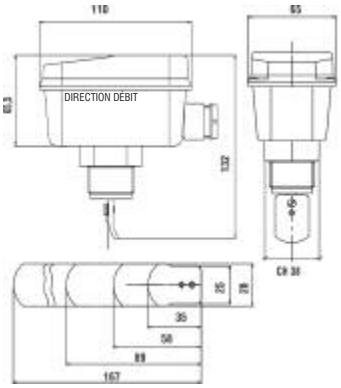
FF71A



FF81 - FF84

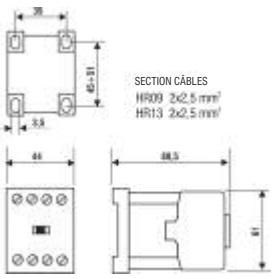


FF81P - FF91P

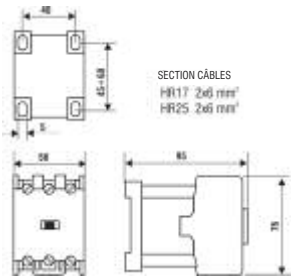


FF82

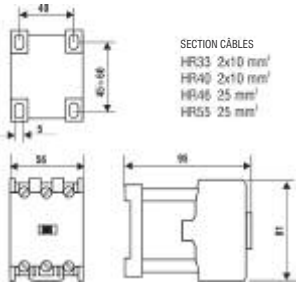
CONTACTORS AND THERMAL RELAYS



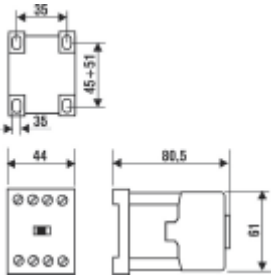
HR09 - HR13



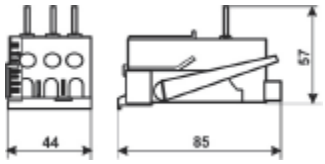
HR17 - HR25



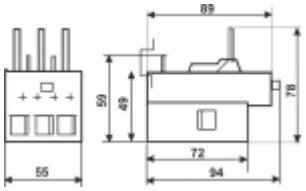
HR33 - HR40 - HR46 - HR55



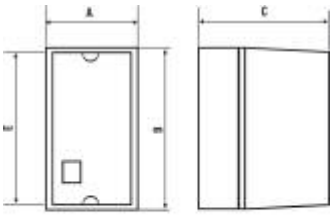
HX10..



JA25



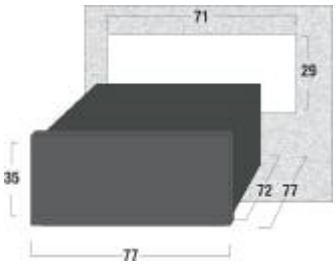
JA46



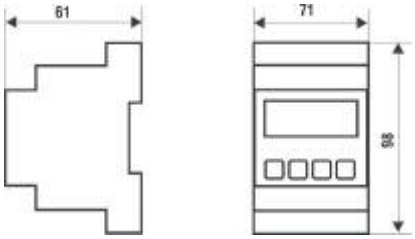
HS09 - HS13
HS17 - HS25

	A	B	C	E
UH13Y	90	155	100	140
UH13YP	90	155	121	140
UH25Y	100	180	112	165
UH25YP	100	180	138	165

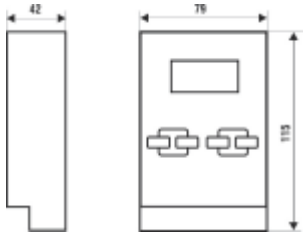
DIGITAL THERMOSTATS



L02 - L12 - L22



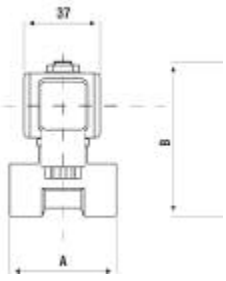
L03 - L23



L04 - L14 - L24

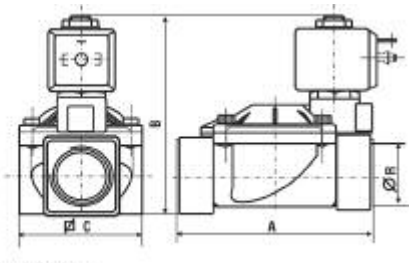
SOLENOID VALVES

TIPO	A	B	C
M20B3	40	74	17
M20C5	53	78,5	26
M20D5	53	78,5	26
M20E7	60	94	52



M20

TIPO	A	B	C
M23C13	69	2,5	40
M23D13	72	94,5	40
M23E20	100	100	65
M23F25	104	105,5	65
M23G35	145	127	102
M23H40	145	127	102
M23I50	173	141	118

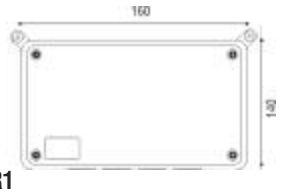


M23 - M29

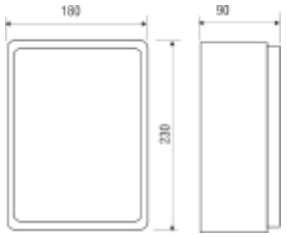
HOME AUTOMATION

	L
OT10	405mm
OT15	425mm
OT20	425mm
OT25	425mm
OT35	485mm
OT40	485mm
OT50	485mm

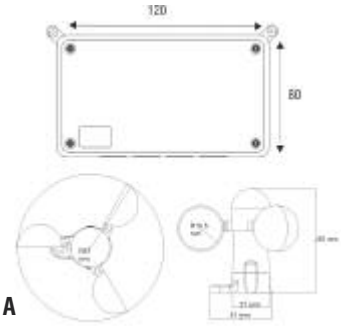
OT...



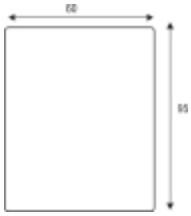
OCR1



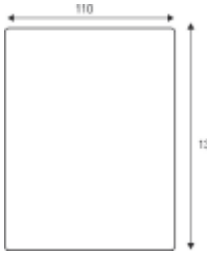
OCS1 - OCP1



OCSV1A

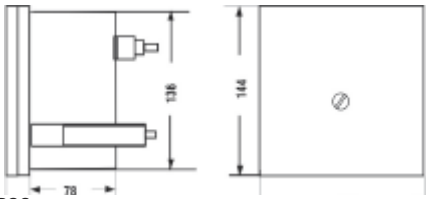


OCM1

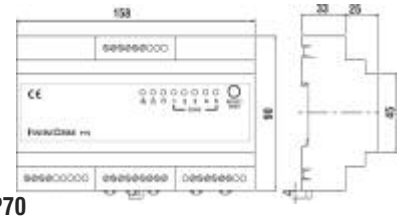


OCM2-3-4

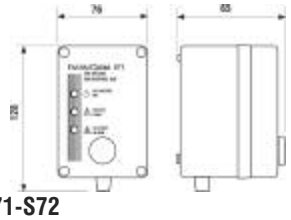
GAS DETECTORS - GAS VALVES



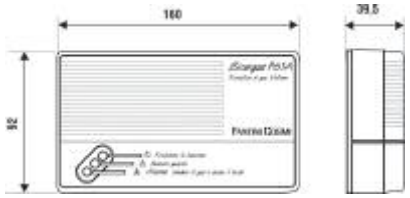
P30



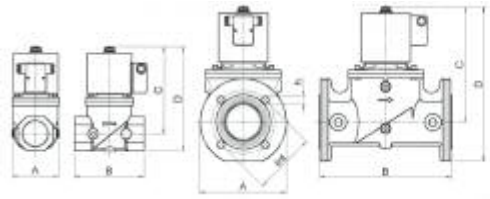
P70



S71-S72

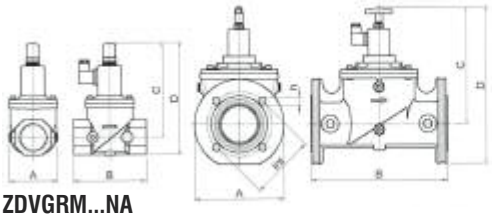


P61A - P62 - P63



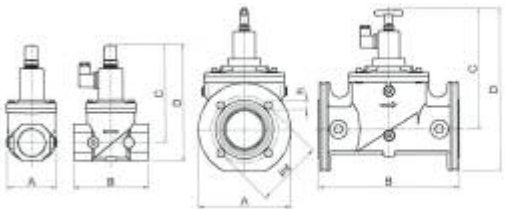
Type	A	B	C	D	Int	h
ZDEV15	30	58	85	110	-	-
ZDEV15	30	58	85	110	-	-
ZDEV20	88	98	150	164	-	-
ZDEV25	88	98	150	164	-	-
ZDEV32	120	153	188	220	-	-
ZDEV40	120	153	188	220	-	-
ZDEV50	106	156	192	230	145	4x18
ZDEVRE65	200	305	266	355	180	8x18
ZDEVRF80	200	305	266	355	180	8x18
ZDEVRF100	252	350	352	492	180	8x18

ZDEV...



Type	A	B	C	D	Int
ZDVGRM15NA	70	77	130	148	-
ZDVGRM20NA	85	96	138	165	-
ZDVGRM25NA	85	96	138	165	-
ZDEVRM32NA	120	153	162	195	-
ZDEVRM40NA	120	153	162	195	-
ZDEVRM50NA	106	156	167	205	-
ZDEVRMF65NA	200	305	260	350	145
ZDEVRMF80NA	200	305	260	350	180
ZDEVRMF100NA	252	350	280	410	180

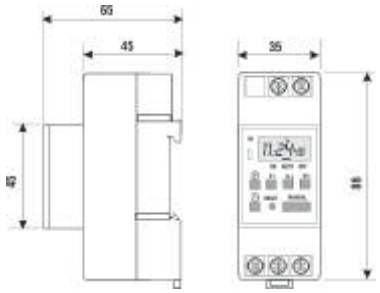
ZDVGRM...NA



Type	A	B	C	D	Int
ZDVGRM15NC	30	58	115	130	-
ZDVGRM20NC	35	55	113	130	-
ZDVGRM25NC	40	62	115	137	-
ZDEVRM32NC	120	153	188	220	-
ZDEVRM40NC	120	153	188	220	-
ZDEVRM50NC	106	156	192	230	-
ZDEVRMF65NC	200	305	260	350	145
ZDEVRMF80NC	200	305	260	350	180
ZDEVRMF100NC	252	350	305	435	180

ZDVGRM...NC

PROGRAMMABLE DIGITAL TIMERS



WO4C

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2009/05