

# PROCESS CONTROL AND INDUSTRIAL AUTOMATION





**GROUP** 



ELLEGI S.A.S.
ELECTRON



FLOW **INDICATOR**  Application: Local display of air / gas / water fluid passage Indication range: 0.14 - 4 ... 8 - 150 I / min water

Connections: from G1 / 8 "to G2" female, from 1/8 "to 2" NPT / from flange DN15 to DN200,

from ½ to 2 "ANSI

Body material: brass, stainless steel-gray cast iron polyamide, polysulfone **Rotor: POM or PTFE or DEFLECTOR** 

p.max: 40 bar

t.max: 280 ° C Viscosity: 1 - 150 mm<sup>2</sup>



**FLOW METER** WITH VARIABLE AIR



Application: Local measurement and display of air / gas / water fluid flow rate Measuring range: 0.25 - 60 m3 / h water / 0.15 - 2500 Nm3 / h air Connections: 1/8 "to 1" NPT, 1/8 "to 31/2"

> G female / hose connector 8 mm / flange DN 15-80 / ANSI ½ "- 3" Material: Stainless steel / polysulfone / trogamide / brass /

acrylic glass / cast iron

Max. Pressure: 16 bar

Max. Temperature: max 140 ° C Accuracy: ± 6% / ± 4% / ± 2.5%

**Option: reed contacts** 

FLOW METER / **FLOW SWITCH FULLY METALLIC** WITH VARIABLE AIR



Application: Measurement / Local display / Air / gas / water / acid fluid flow rate transmission Measuring / intervention range: 0.5 - 130 000 l / h water / 0.015 - - 2400 Nm<sup>3</sup> / h air

Connections: DN15 / DN150 / ANSI flanges 3/4 "; 6"

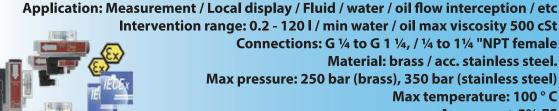
Material: 1.4404 stainless steel, PTFE coating option, Hastelloy®

P. max: PN40 (16) bar T - max: 350 ° C

Accuracy:  $\pm$  1.6% of full scale ( $\pm$  2% of full scale for gas)

Options: contacts / 4-20 mA analog output / totalizer / Hart® / Profibus® PA / ATEX

**FLOW SWITCH** WITH VARIABLE AREA



Material: brass / acc. stainless steel. Max pressure: 250 bar (brass), 350 bar (stainless steel)

Max temperature: 100 ° C

**Accuracy: ± 5% FS** 

**Reed contact** 





Max temperature: 120 ° C **Reed contact** 

Accuracy:  $\pm 3 / \pm 5\%$  FS



Application: Measurement / Local display / Water fluid flow transmission / etc.

Measuring ranges: from 0.015 l/min to 150,000 m<sup>3</sup>/h of water

Connections: from G  $\frac{1}{2}$  "to G 3" from  $\frac{1}{2}$  "to 3" NPT / flange from DN 15 to DN 300 /

flange ANSI from ½ to 12 "

Material: brass, stainless steel / PP / PE / PVC / PVDF / PTFE / ryton / trogamide / polysulfone

Max. Pressure: 640 bar Max. Temperature: 350 ° C

Accuracy: ± 2.5% / ± 1.5% / ± 1% of full scale

Pulse output NPN / PNP / Relay / 4-20 mA analog output / digital displayT

FLOW METER TURBINE

Application: Measurement / Local display / Flow transmission of viscous fluids / oil

Measuring range: 0.5 - 36 | / h ... 150 - 2500 | / min

Viscosity range: up to 30,000 cSt

Connections: from G 1/8 "to G 4 female, / flanges from DN25 to DN100, ASME flanges from 1 to 4"

Material: aluminum, acc. Inox / POM

Max. Pressure: 400 bar Max. Temperature: 150 ° C

Accuracy: ± 0.5 / 1% of the measured value

Pulse output NPN / PNP / Analog output / contacts / digital display

FLOW METER
WITH OVAL WHEELS

Application: Measurement / Interception / Transmission of water / air fluid flow

Intervention range: 4 cm / s ... 2 m / s water / 1 m / s - 20 m / s air Connections: G ¼ "... G 3/4", ¼ "NPT ... ¾" NPT, M12x, Tri Clamp

Material: acc. Stainless steel. / nickel-plated brass

Max. Pressure: 100 bar

Max. Temperature: 80 ° C / 120 ° C

Repeatability: approx. 2% LED string, relay contacts, analog output



FLOW METER CALORIMETRIC

Application: Measurement / Local display / Transmission of air / technical gases flow rate Measuring range: 0.1 - 3.7 ... 0 - 185 NI / min air / argon / CH4 / CO / CO2 / N2 / O2 / H2 / He etc Connections: 1/8 "to ½" clamp, ¼ "to ½" NPT female ¼ "½" VCO / ¼ "½" VCR / Swagelok 1/8 "- ½"

Material: acc. Stainless steel / nylon

Max.pressure: 10/35 bar) Max. Temperature: 50 ° C

Accuracy: ± 1% / 1.5% of full scale
Output: 4 - 20 mA / 0 - 5/0 - 10, 1 - 5 V

Digital display



METER/ REGULATOR AIR AND GAS DISPERSION THERMAL

Application: Measurement / Local display / Transmission of air / technical gases flow rate Measuring range: 0.3 to - 3440 Nm $^3$  / h air max. 224 Nm / s / other gases Argon / CH4 / CO / CO2 / N2 / O2 / H2 / He Connections: from G  $\frac{1}{2}$  "to G 2" M / from  $\frac{1}{2}$  "to 2" NPT M / Flange from DN15 to DN80 PN40 /

from ½ "to 3" Cl. 150 to Cl. 300 Material: acc. Stainless steel Max. Pressure: 100 bar Max. Temperature: 180 ° C Accuracy: ± 0.3% of full scale

Output: 2x 4-20 mA, pulse output, alarm output / RS485 Modbus RTU serial

**Digital display** 



METER AIR AND GAS DISPERSION THERMAL



**METER OF CAPACITY ELECTROMAGNETIC** 

**METER** 

**OF CAPACITY** 

**ELECTROMAGNETIC** 

**AD INSERTION** 



Application: Measurement / Local display / Transmission of water flow rate / conductive fluids Measuring range: from 0.05 to 40376 m<sup>3</sup>/h Accuracy: ± 0.3% of reading ± 0.01% of Qmax HART

p. max: PN40 t. max: -20 ° C + 150 ° C

Connection: flanged from DN15 to DN1200 / ANSI from ½ "to 48 / from ½", ¾ ", G 1", G 2 ", 2" NPT

Lining material: hard rubber, soft rubber, PTFE / PFA, PA11 Material: stainless steel, PEEK PPS, PVDF / Hastelloy®, Tantalum

Output: 4-20 mA, totalizer pulse, alarm status Communication: HART ® / IO-Link

Approvals: ATEX (Gas / Staub)

Application: Measurement / Local display / Transmission of water flow rate / conductive fluids

Measuring range: from 0.5 - 10 m / s

Connection: welded socket for DN80-2000 (3 "... 16")

Material: stainless steel (1.4571,1.4404), 316L, PTFE, PFA

p. max: PN16 (16 bar / 90 ° C; 14 bar / 100 ° C)

t. max: -20 ... + 100 ° C, stainless steel / PTFE; process -20 ... + 60 ° C;

Conductivity: ≥20 µS / cm Accuracy: ± 1.5% of reading

Output: analog / pulse / status output, digital display, Hart®, Profibus® / PA, ATEX, NEPSI

**METER RANGE TO VORTEX A INSERTION** 



Application: Measurement / Local display / Water / gas / steam fluid flow rate transmission Measuring range: liquid 5.2 - 157/284 - 8537 m<sup>3</sup> / h Gas from 89-2467081 Nm³ / h (20 ° C, 0 bar rel / Steam from 81 to 1324739 kg / h Process connection: threaded or flanged insertion for pipes DN 80-DN 600 (3 ".. 24")

Material: acc. Stainless steel

Max. Pressure: 100 bar

Max.temperature: 360 ° C (400 ° C)

Accuracy: liquids  $\pm$  1.2% of the measured value gas / vapor  $\pm$  1.5% of the measured value **Output: analog** 

**Contacts: digital display** Option: Temperature and pressure transmitter, ATEX, IEC

METER **OF CAPACITY ULTRASOUND CLAMP-ON** 



Application: Measurement / Local display / Transmission of water flow rate / etc

Measuring range: 0 - 30 m / s liquid

Measurements: volume, speed, temperature

Connection: Clamp-on for pipes with diameter DN10 ... DN6000

Maximum temperature: 150 ° C

Accuracy: ± 1% ... ± 2.5% of the measured value

Outputs: 2 x 4-20 mA, pulses, Micro-USB, Relay, RS232, RS485, totalization

**METER** OF CAPACITY **ULTRASOUND ON LINE** 



Application: Measurement / Local display / Transmission of water flow rate / etc

Measuring range: 0.08 - 20 ... 2.5 - 630 l / min liquid

Connections: from G ½ to G3 femin Material: brass / stainless steel

Max pressure: 16 bar

Max temperature: 90 ° C

Accuracy: ± 0.7% of the measured value + 0.7% FS Pulse output, analog output, relay contacts, digital display



Application: Flow rate measurement of water / gas / air fluids etc.

Connection: DN50 to DN 600,

Material: M steel, stainless steel, Hastelloy C, Titanium, Monel, Tantalum

P. max: PN420 BA T. max: + 500 ° C FLOW MEASUREMENT WITH CALIBRATED ORIFICE BY PRESSURE DIFFERENTIAL

Application: Flow rate measurement of water / gas / air fluids etc.

Connection: G1 "to G 1½", 1 "to 1½" NPT, DN25 to DN 80, ANSI 1 to 3 "

**Material: stainless steel** 

P. max: 400 bar T. max: 1175 ° C

Probe length: 50 to 8000 mm (2 "-600"):



FLOW MEASUREMENT AIR / GAS WITH HOSE OF PITOT BY PRESSURE DIFFERENTIAL

Application: Measurement / Local display / Transmission of water flow rate / etc

Measuring range: depends on the flow channel / weir

Connection: G  $1\frac{1}{2}$  ", G2",  $1\frac{1}{2}$  "NPT, male thread 2" NPT, Flange DN80, 125, 150, ANSI 3 ", 5", 6 "

**Connection material: polypropylene** 

P. max .: 3 bar T. max .: 90 ° C

Accuracy: depends on the flow channel / weir

Power supply: 12 - 36 V DC, 2 wires

Output: 4 - 20 mA, relay

LCD indication and programming unit



METER
FLUID FLOW
ULTRASOUND
FOR OPEN CHANNELS

Application: Measurement / Local display / Transmission of water flow rate / etc

Measuring range: 0.5 "-7" ... 50-500 m<sup>3</sup> / h water

**Connections: wafer DN 25-DN 300** 

Material: steel, acc. stainless steel, PTFE, Hastelloy® P. max .: PN 40 / PN16 DN 100-200 / PN10 from DN 250

T. max .: -40, 200 ° C (-40 ... + 300 ° C on request)

Accuracy: ± 2.5% FS

Option: contact, 4-20 mA, ATEX, Hart®, Profibus® PA



FLOW METER / FLOW SWITCH WITH DEFLECTOR



### **MEASUREMENT AND PRESSURE SENSORS**

PRESSURE GAUGE OF PRESSURE A BOURDON TUBE



Application: Measurement / Local display / water / air fluid pressure

Measuring range: -1 up to 0 ... 0 up to 1000 bar

Connections: G ¼ ", G ½" male, brass / stainless steel

Body material: acc. stainless steel, steel, aluminum

Body diameter: 63, 80, 100, 160mm

Class accuracy: 1.6 or 1.0%

Option: contacts, glycerine filling

PRESSURE GAUGE OF PRESSURE DIAPHRAGM



Application: Measurement / Local display / low pressure of water / air fluids Measuring range: - 250 ... 0 up to 0 ... +250 mbar -1 ... 0 up to 0 ... +40 bar Connections: G ½ "male, steel, acc. Stainless steel Body material: acc. Stainless steel

Body material: acc. Stainless steel Body diameter: 100, 160 mm

**Accuracy class: 1.6** 

Option: contacts, glycerine filling

PRESSURE GAUGE
OF PRESSURE
DIAPHRAGM
FOR CORROSIVE FLUIDS



Application: Measurement / Local display / low pressure of water / acid fluids

PVDF / Hypalon / PTFE sealing diaphragm

Measurement range: 0 up to 1.6 / 0 up to 16 bar Connection: G 1/4 ", G 1/2", 1/2 "NPT

Case material: stainless steel
Case diameter: 63/80/100 mm

**Accuracy: class 1.6** 

Options: glycerine filling, remote version, vibration damper

PRESSURE GAUGE WITH CAPILLARY OF SEPARATION / FACADE MEMBRANE



Application: Measurement / Local display / low pressure dirty fluids / water etc. Measurement range: 0 up to 2.5 / 0 up to 10 bar Connection: Tri Clamp 1 "-3", Sanitary swivel / G  $\frac{1}{2}$ " -1 $\frac{1}{2}$ " /  $\frac{1}{4}$ " NPT, M20 x 1,5,

M48 x 3 stainless steel
Diaphragm: 18 up to 64 mm, stainless steel
Case material: stainless steel, aluminum

Case diameter: 100 mm Accuracy: class 1.6

Options: contacts, glycerine filling, / remote version, vibration damper

PRESSURE GAUGE DIFFERENTIAL



Application: Measurement / Local display / water / air fluid pressure
Measuring range: 0 up to 0.1 bar ... 0 up to 25 bar

Connections: G ½ ", ½" NPT male, ¼ "NPT female, acc. Stainless steel

Body material: acc. Stainless steel Body diameter: 100, 150 mm

Class accuracy: 1.6%

**Option: glycerine filling, contacts** 

# **MEASUREMENT AND PRESSURE SENSORS**



Application: Measurement / Shut-off / pressure of water / air fluids

Intervention range: from - 1 up to 160 bar Connections: R ½ "male and ¼" female

Body: brass, acc. Stainless steel
Max temperature: 85 ° C (fluid)
Repeatability: <1% of the set point
Micro switch output, ATEX Eexia / EExd



PRESSURE SWITCH

Application: Measurement / Interception / pressure of water / air fluids

Intervention range: 4 mbar up to 16 bar

Connections: ¼ ", ½" NPT female, ½ "NPT, G ½" male

Body: acc. stainless steel, aluminum Max temperature: 85 ° C (fluid) Repeatability: <1% of the set point Micro switchA / TEX Eexia output



PRESSURE SWITCH DIFFERENTIAL

**Application: Measurement / Shut-off / low air pressure neutral gases** 

Intervention range: 20 up to 1000 Pas

**Connections: 6 mm fitting** 

**Body: PA** 

Max temperature: -20 ... +70 ° C (fluid)

Micro switch output



DIFFERENTIAL PRESSURE SWITCH FOR NEUTRAL GASES

Application: Measurement / Transmission of pressure / water / air fluids etc.

Thin film / ceramic / piezoresistive sensor Measuring range: -1 up to 1000 bar

Connections: G ¼ "/ G ½" / G 1 "male / ¼" - ½ "NPT stainless steel.

Class accuracy: 0.25 or 0.5% or 1%

4-20 mA / 0-5 Vdc / 0-10 Vdc analog output



TRANSMITTER
ELECTRONIC PRESSURE

Application: Measurement / Local display / Water / air fluid pressure transmission etc.

Measuring range: from -1 to 1600 bar

Connections: G ¼ ", G ½" male, ¼ "NPT, ½" NPT acc. Stainless steel

**Body material: glass fiber reinforced plastic** 

Body diameter: 74 mm Accuracy class: 0.5

Power supply: battery / 24 Vdc ± 20%

Option: contact, analog output, peak memory



PRESSURE GAUGE
OF DIGITAL PRESSURE



TRANSMITTER

OF PRESSURE /

**ELECTRONIC PRESSURE SWITCH** 

WITH DISPLAY

# **MEASUREMENT AND PRESSURE SENSORS**

Application: Measurement / Local display / Shut-off / Water / air fluid pressure transmission etc.

Measuring range: -1. + 600 bar

Accuracy: ± 0.5% of FS T. max .: + 85 ° C (Fluid)

Connection: G 1/4

Material: Connection of stainless steel 1.4542 Housing of galvanized steel / die-cast metal Output: 1 analog 4-20mA or 0-10V output (switchable)

2 PNP switching outputs

Features: rotatable and reversible display; swivel electrical connection

Status indication of the switching point via LED

TRANSMITTER **ELECTRONIC PRESSURE HIGH ACCURACY** 



Application: Measurement / Local display / Water / air fluid pressure transmission etc. **Capacitive sensor** 

Membrane Stainless steel, Hastelloy-C®, Tantalum

Measuring range: -1 ... +600 bar T. max .: 200 ° C

Power supply: 11.9 - 45 VDC

Connections: 1/4 "NPT female, 1/2" NPT female or flanged DN 15 - 100

Accuracy: ± 0.075% of calibration

Analog output, HART®, ATEX EExia / EExd

**TRANSMITTER OF PRESSURE WITH SEPARATOR** 



Application: Measurement / Local display / Water / air fluid pressure transmission etc. Membrane Stainless steel, Tantalum, Hastelloy-C®, PTFE

Measuring range: from 250 mbar. to. +600 bar

T. max .: 350 ° C

Connections: threaded or flanged (nominal size DN 15-DN 100

Analog output. HART®, ATEX Eexia / Eexd

Accuracy: ± 0.075% of calibration + separator influence

**TRANSMITTER DIFFERENTIAL PRESSURE** 



Application: Measurement / Local display / Water / air fluid pressure transmission etc. Measuring range: 0.75-15 mbar ... 4.137-413.7 bar

Connections: 1/4 "NPT, 1/2" NPT

Material: stainless steel / Hastelloy-C® / Monel / Tantalum

Max. Temperature: 120 ° C

Accuracy: ± 0.075% of meas. Range

Analog output, HART®, ATEX Eexia / Eexd

Option: frequency / totalizer output for flow measurements

TRANSMITTER **DIFFERENTIAL PRESSURE WITH SEPARATOR** 

Application: Measurement / Local display / Water / air fluid pressure transmission etc. Measuring range: 0-250 mbar ... 0-206.8 bar Connections: flange, thread, sanitary connection

Material: stainless steel / Hastelloy-C® / Monel / tantalum

Max. Temperature: 200 ° C

**Class accuracy: 1% / 1.6%** 

Output: 4 - 20 mA. HART®, ATEX Eexia / EExd

# MEASUREMENT AND PRESSURE SENSORS



Application: Measurement / Local display / Low air pressure transmission etc.

For air or neutral gases (e.g. monitoring of filter systems)

Measurement range: from 5:0 Pas 0-5000 Pas

**Connection: 6x8 mm hose connection** 

**Indication: 4 digit LED** 

4-20 mA analog output, 2 relays (max 230 VAC, 0.5 A)

Power supply: 24/110/230 VAC / 24 VDC



TRANSMITTER
DIFFERENTIAL PRESSURE
FOR AIR

## **MEASUREMENT AND LEVEL SENSORS**

Application: Measurement / Local display / Water fluid level transmission / etc

Visual local indicator without auxiliary power supply

Plastic / glass tube / plastic / ceramic colored magnetic rollers display

Measuring length: from 100 to 6000 mm

Connections: G ½ ", G ¾", G1 ", G1 ¼" / ½ ", ¾", 1 ", 1 ¼" NPT / DIN flange DN15 50 / ASME-flange ½ "-2'

Material: acc. Stainless steel / aluminum / PVC, PP, PVDF

Max pressure: 100 bar Max temperature: 400 ° C

Min / Max limit alarm contact options

4-20 mA transmitter option

**Certificates: ATEX** 



TRANSMITTER INDICATOR
OF LEVEL
BY -PASS DERIVATION

Application: Measurement / Local display / Interception / Water fluid level transmission / etc

Contact: max. 4 reed contacts

Measuring length: max. 6 meters

Connections: from G1 / 8 to G 2 "male / flanges from DN50 to DN125, from  $1\frac{1}{2}$ " to 4 "

Material: brass, acc. inox., PVC-U, PP, PVDF, NBR

Max. Pressure: 100 bar Max. Temperature: 150 ° C Liquid density:> 0.5 g / ml

Analogue senal output: resistive, 4-20 mA, LC display, Contacts, HART®, Profibus®, Fieldbus®

Accuracy: 0.5% on L = 2 m

TRANSMITTERS / LEVEL SWITCHES MAGNETIC FLOAT

**Application: Water fluid level interception / etc** 

**Contacts: 1 micro - switch** 

Material: Polypropylene, hypalon / PTFE coated PP

Connection: cable gland G 1 ": G 2"

Max. Pressure: 15 bar Max. Temperature: 150 ° C



LEVEL SWITCH PEAR FLOAT

Application: Water fluid level interception / etc

Electrodes: max 6 length: max-3000 mm

**Contacts: 5 relay contacts** 

Connections: G ½ ", G 1 ½" / SWIVEL DIN 11851 hygienic / Tri-Clamp ® / welded sleeve

Material: Stainless steel, Hastelloy®, Titanium

Max. Pressure: 30 bar Max. Temperature: 150 ° C

For conductive liquids (> 20 µS / cm)



LEVEL SWITCH CONDUCTIVE



## **MEASUREMENT AND LEVEL SENSORS**

TRANSMITTERS / LEVEL SWITCHES CAPACITIVES FOR LIQUIDS



Application: Measurement / Shut-off / Transmission level of water / oil fluids / etc

Probe length: max. 4 m

Contact: 1 relay (max 250 VAC, 1A)

Connection: G 1 "- M stainless steel or G2" -M in PVDF Probe material: Stainless steel, with PTFE or PVDF coating

Maximum pressure: 30 bar

Maximum temperature: 90 ° C (125 ° C)

Power supply: 24 ÷ 110 ÷ 230 VAC / 18 ÷ 36 VDC

4-20 mA analog output

CAPACITIVE LEVEL SWITCHES FOR LOOSE



Application: Bulk solids level interception / etc Probe length: max. 3 m, with 15 m cable

Contact: 1 relay (max 250 VAC, 1A)
Connection: G 1 "-M stainless steel or

Probe material: acc. stainless steel. with PTFE jacket / or cable with PP jacket

Maximum pressure: -0.1 + 0.5 bar

Maximum temperature: -20 + 80 ° C

Power supply: 12 ÷ 35 VDC (Atex 12..30 VDC)

LEVEL SWITCHES
A VIBRATION
FOR LIQUIDS



Application: Water / oil fluid level interception etc. Contacts: 1 PNP / NPN / RELAY electronic contact Connections: G ¾ ", G1" male, ¾ "NPT, 1" NPT male

Tri-Clamp® DIN 32676 / sanitary fixtures DIN 11851 / DIN- Flanges: DN25 ÷ DN50 /

ANSI-flanges: 1 "+ 2"

Material: acc. Stainless steel. 1.4404

Max. Pressure: 45 bar

Max.temperature: 130 ° C (150 ° C CIP-cleaning)

Viscosity: up to 5000 mm<sup>2</sup> / s

**Certificates: ATEX** 

LEVEL SWITCHES A VIBRATION FOR LOOSE



Application: Bulk solids level interception / etc Probe length: max. 3 m

Contact: 1 relay (max. 250 VAC, 1A), 25 VA

Connections: G 1 ½ male

Material: acc. stainless steel. 1.4305 (303)

Max. Pressure: 25 bar

Max temperature: 80 ° C

Power supply: 24  $\div$  110  $\div$  230 VAC / 18  $\div$  36 VDC

**Certificates: ATEX** 

LEVEL SWITCHES
WITH ROTATING FAN
FOR LOOSE



Application: Bulk solids level interception / etc
Contact: 1 micro switch

Connections: G 1 ", G 1 1/4", G 1 1/2 male / flange Φ 110 ÷ 200 mm

Material: shaft / Rotor: acc. Stainless steel

Max.pressure: -0.5 bar .... + 0.5 bar

Max. Temperature: 200 ° C

**Version option: ATEX** 

# MEASUREMENT AND LEVEL SENSORS



Application: Bulk solids level interception / etc

Contact: 1 micro switch
Connections: circular flange

Material: membrane: Nitril, NBR, FPM, acc. stainless steel.

Retention ring: steel, acc. stainless steel, aluminum

Max. Pressure: 0.5 bar Max. Temperature: 200°



LEVEL SWITCHES MEMBRANE FOR LOOSE

Application: Measurement / Local display / Interception / Transmission of water / oil fluid level etc.

Measuring range: up to 20 meters

Process connections: threaded G 3/4 ", 3/4" NPT / flange DN 40 ÷ DN100 / ANSI 11/2 " ÷ 4"

Material: stainless steel, PTFE Working pressure: -1 + 40 bar Working temperature: -50 ... +250 ° C

Accuracy: ± 3 mm or 0.03% of the measured value

Power supply: 12 - 30 VDC, 4-wire Output signals: 4 - 20 mA, PNP contact

Ex ia (ATEX and IECEx)



LEVEL TRANSMITTERS
GUIDED WAVE RADAR
FOR LIQUIDS AND SOLIDS

Application: Measurement / transmission of water fluid level / etc

Measuring range: liquids up to 23 m

Connection: BSP-, NPT- male flange thread 3 "- 6" (DN, ANSI, JIS) milk connection, Tri-Clamp °

Material connection: stainless steel, aluminum, PP, PTFE

P. max .: 25 bar T. max .: + 180 ° C Accuracy: ± 3 mm

Power supply: 20-36V DC (Ex = 20-30V DC), 2 wires Output: 4-20 mA Approval HART ® Ex ia (ATEX and IECEx)



TRANSMITTER RADAR LEVEL WITHOUT CONTACT

Application: Measurement / transmission level of water / solid fluids / etc

Measuring range: liquids up to 25 m / solids up to 10 meters

Connections: G 11/2 ", G2", 11/2 "NPT, 2" NPT AG flange DN 80-125-150 / ANSI 3 "-5" -6 "

**Connections material: Polypropylene** 

Max. Pressure: 3 bar abs., Max. temperature: 90 ° C

Accuracy: ± 0.2% of MW ± 0.05% of ME Power supply: 12-36 VDC, 2-wire

Output: 4-20mA, relay

LCD-Indication, programming unit



TRANSMITTERS
OF LEVEL
ULTRASONIC

Application: Measurement / transmission of water fluid level, etc.

Measuring range: 0.1 m c.a ... 0-200 m t c-.a.
Material: acc. inox., polyurethane cable

Max. Level overload: 3 times full scale, max. temperature: 60 ° C

Accuracy: ± 0.5% FS



TRANSMITTER
OF LEVEL
SUBMERSION
FOR WELLS AND TANKS IP 68



#### **MEASUREMENT AND LEVEL SENSORS**

TRANSMITTER
OF LEVEL
WITH HYDROSTATIC HEAD



Application: Measurement / Local display / Transmission of water / oil fluid level etc.
Facing membrane execution
Materials in contact: Stainless steel, Hastelloy-C° Tantalum, PTFE
Measuring range: from 1 mt c.a to 200 mt c.a

T. max .: 350 ° C

Connections: threaded from 1/2 "to 2" G / Fl angled from DN 15 to DN 100
Accuracy: ± 0.075% of calibration + separator influence
Output: 4 - 20 mA, HART®, ATEX

Application: Measurement / Local display / transmission of water / oil fluid level etc.

TRANSMITTER
DIFFERENTIAL LEVEL
FOR PRESSURE TANKS



Measuring range: 0-2500 mmC.a ... 0-150 mC.a Connections: DN50 / DN80 / DN100 flange Material: Stainless steel, Hastelloy-C®, Monel, Tantalum

Max. Temperature: 200 ° C Class accuracy: 1 / 1.6%

Output: 4 - 20 mA, HART®, ATEX



#### **MEASUREMENT AND TEMPERATURE SENSORS**

THERMOSTAT
ELECTRONIC
CONNECTION M12 x 1



Application: Max temperature interceptor - 100  $^{\circ}$  C - 1000  $^{\circ}$  C Calibration: Resistance thermometer PT 100 IEC 754 / Tc K IEC 584 Output: digital PNP max range - 100  $^{\circ}$  + 500  $^{\circ}$  C / 0 - 1000  $^{\circ}$  C Tc K

Power supply: 12-30 Vdc

**Connection body material: STAINLESS STEEL** 

THERMOCOUPLE WITH CONNECTOR STANDARD / MIGNON



Application: Max temperature measurements Tc J 600 ° C / Tc K 1200 ° C

Calibration: TC J / TC K / others required

Diameters: standard 0.025 / 05/1 / 1.5 2/3 / 4.5 / 6 mm Length: standard 250 - 500 - 1000 -1250 -1500 mm

THERMOCOUPLE/ THERMISTOR CONNECTION HEAD IN ALUMINUM



Calibration: Pt100 / Pt1000 / TC J / TC K / other calibrations on request

Max. Temp .: -50 + 500 Pt100 / Tc J 600 ° C / Tc K 1200 °

Diameters: standard 3 / 4.5 / 6/8 / mm / other diameters on request

Length: from 50 to 50,000 mm

Material: Pt100 metal sheath in AISI 316 / TC J AISI 321 / TC K Inconel 600 Option: 1/8 "-1/4" 3/8 "/ 1/2" 3/4 "/ 1" Gas -Npt male stainless steel fixed fitting.

Option: built-in transmitter 4-20 mA or 0-10 Vdc output

THERMOCOUPLE/ THERMISTOR WITH EXTENSION CABLE INTEGRATED Application: Max temperature measurements -200 ° C -1200 ° C Calibration: Pt100 / Pt1000 / TC J / TC K / others on request Diameters: 0.25 / 0.5 / 1 / 1.5 / 2/3 / 4.5 / 6mm

Length: from 50 to 50,000

Insulation: silicone rubber / Teflon / Kapton / glass fiber extension cable

#### MEASUREMENT AND TEMPERATURE SENSORS



Application: Temperature measurements. max Tc J 600 ° C / Tc K 1200 ° C

**Calibration: J Constantan Iron / K Cromel Allumel IEC 584** 

Diameters: standard 2/3 / 4.5 / 6 mm

Length: standard 250 - 500 - 1000 -1250 -1500 mm

THERMOCOUPLE WITH CONNECTOR M12 x 1 / M8 x 1

Application: Max temperature measurements - 200 ° C - 500 ° C

Calibration: PT 100 / PT1000 IEC 754
Diameters: standard 2/3 / 4.5 / 6 mm

Length: standard 100 - 150 - 250 - 350 - 500 - 750 - 1000 mm

THERMORESITANCES WITH CONNECTOR M12 x 1 / M8 x 1

Application: Max temperature converter - 200 ° C - 500 ° C

Calibration: PT 100 EC 754

**Output: 4-20 mA 2-wire technique** 

Power supply: 12-30 Vdc

**Connection body material: PLASTIC / STAINLESS STEEL** 

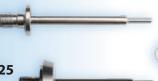


Application: Max temperature measurements -50 ° C - 200 ° C

Calibration: PT 100 / PT1000 IEC 754

Diameters: standard 8 mm tapered to 4 mm length from 35 to 100 mm Process connection: AISI 316 TRI-CLAMP 3/4 "or SWIVEL DIN 11851 DN 25

**Electropolishing with ROUGHNESS better than Ra 0.8** 



THERMORESITANCES A M12x CONNECTOR 1 HEALTH / FOOD

Calibration: NTC / PT 100 / PT1000 IEC 754

Max temp .: -50 ° C - 150 ° C

Execution for external / internal ambient air temperature Execution for air / water temperature in delivery / return channel Execution for air / water channel external pipe contact temperature

Case: plastic electrical connections IP 65/67
Option: built-in transmitter 4-20 mA output



THERMORESITANCES
THERMISTORS
BY SECTOR
BUILDIN AUTOMATION

Application: Max temperature measurements Tc J 400 ° C / Tc K 600 ° C

Calibration: TC J / TC K

Transition cup in polymer for high temperatures 350/500 ° C

Diameters: standard 1 / 1.5 mm / others on request

Length: from 50 to 900 mm



THERMOCOUPLE FOR APPLICATIONS PLASTIC MOLDING

Application: Max temperature measurements -50 ° C - 100 ° C

Calibration: NTC / PTC / PT 100 / PT1000 IEC 754

Cable: extension in TPE Temp. Max 105 ° C / others on request

Option: stainless steel protective tube diameter 6 mm



THERMISTORS /
THERMORESITANCES
RUBBER
THERMOPLASTIC IP 68



DIGITAL TRANSMITTER

**OF TEMPERATURE** 

AND HUMIDITY

# **PARTICIPATION OF THE PROPERTY OF THE SENSORS**

+/- 0.2 ° C / 0- 100% RH +/- 2%

Diameter: standard 6 mm length from 80 to 500 mm AISI 316 L

Communication: serial RS 485 MOD -BUS RTU protocol baud rate 38400

Max. Devices that can be connected to the network: 32

Power supply: 9 - 30 Vdc consumption 10 mA max distance transmiss. 1 Km Built-in communication led: power on / error / transmission active

Electrical connections: M12 5-pole IP 67 connector

Option: fixing bracket / T-splitter boxes / M12 connector cable extensions

**Configuration kit: EVOPLATFORMSET** 

## MEASUREMENT AND HUMIDITY SENSORS

Wall mounting version for outdoor environment Application range: 5 ~ 95% RH (no condensation) / -20 ~ 80 ° C

Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique

**Case: Polycarbonate Protection: IP 65** 

Accuracy: +/- 2%; +/- 0.5 ° C

Power supply: 24 Vac / dc

Sintered filters option to protect dusty environments

TRANSMITTERS **OF HUMIDITY AND TEMPERATURE** INDUSTRIAL VERSION



**Channel mounting version** Application range: 5 ~ 95% RH (no condensation) / -40 ~ 125 ° C ° C Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique

**Case: Polycarbonate** 

**Protection: IP 65** Accuracy: +/- 2%; +/- 0.5 ° C

Power supply: 24 Vac / dc

Sintered filters option to protect dusty environments

Version with separate electronics for high temperatures and pressures Application for high temperatures max 200 ° C

Application for high temperature and pressure measurements 160 ° C / 25 Bar max.

Scope: 5 ~ 95% RH (no condensation)

Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique

**Case: Polycarbonate** 

**Protection: IP 65** 

Accuracy: +/- 2%; +/- 0.5 ° C

Power supply: 24 Vac / dc

Sintered filters option to protect dusty environments

**TRANSMITTERS OF HUMIDITY** AND TEMPERATURE

**LIGTH VERSION** 

Wall-mounted version for clean air Application range: 10 ~ 90% RH (no condensation) / 0 ~ 50 ° C Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique Serial communication option: RS 485 Mod-bus RTU protocol

**Case: Polycarbonate** 

**Protection: IP 30** 

Accuracy: +/- 3%; +/- 1 ° C

Power supply: 24 Vac / dc.

**Option: Integrated 4-digit LCD display** 

#### **MEASUREMENT AND HUMIDITY SENSORS**

**Duct mounting version for clean air** 

Application range:  $10 \sim 95\%$  RH (no condensation) /  $0 \sim 50$  ° C

Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique

Case: Polycarbonate Protection: IP 30

Accuracy: +/- 3%; +/- 1 ° C Power supply: 24 Vac / dc

Wall mounting version for outdoor environment

Application range: 10 ~ 95% RH (no condensation) / -5 ~ 50 ° C

Linear output: 4-20 mA / 0-10 Vdc 2/3 wire technique

Case: Polycarbonate Protection: IP 65

Accuracy: +/- 3%; +/- 1 ° C Power supply: 24 Vac / dc.

Wall mount integrated cable version for general applications Application range:  $5 \sim 95\%$  RH (no condensation) /  $-10 \sim 70$  ° C

Linear output: 4-20 mA 2-wire technique

Case: Polycarbonate Protection: IP 65

Accuracy: +/- 3%; +/- 1.5 ° C Power supply: 24 V dc.



TRANSMITTERS
OF HUMIDITY
AND TEMPERATURE
LIGTH VERSION



#### PH AND CONDUCTIVITY MEASUREMENT AND SENSORS

Range PH 0 +14 PH accuracy 0.05 Ph

ORP range - REDOX +/- 2000 mV accuracy +/- 3 mV

4-20 mA output minimum range programmable scale 0.5 Ph or 30 My

Integrated Pt1000 sensor range - 40 '130 ° C accuracy +/- 1 ° C

4-20 mA output minimum range programmable scale and 10 ° C

Maximum pressure: 16 Bar

Strike attachment 1 ½ Gas F swivel mounting on sleeve to be welded or glued

Material probe holder: PVC / PVDF / PP / INOX / diameter 23 mm x immersion 80 mm

Incorporated electronics with display and programming and sensor configuration keys

Case in PPS IP 67 connection 2 x M12 x1 5 P alim. 12-30 Vdc

TRANSMITTERS
OF PH or ORP REDOX

Range 0.05 uS / cm - 10 mS / cm - 2S / cm accuracy 3% measured value

4-20 mA output programmed scale range 0.05 -20 uS / cm - 0.5-200 uS / cm - 5 -uS-10 mS / cm

Response time: 5 seconds

Temperature range: - 40 + 150 ° C accuracy 1 ° C

4-20 mA output minimum range programmable scale and 10 ° C

Maximum pressure: 16 Bar

Strike attachment 1 ½ Gas F swivel mounting on sleeve to be welded or glued

Material probe holder: PVC / PVDF / PP / INOX / diameter 23 mm x immersion 80 mm

Incorporated electronics with display and programming and sensor configuration keys

Case in PPS IP 67 connection 2 x M12 x1 5 P power supply 12-30



#### **GAS MEASUREMENT AND SENSORS**



Multi-zone control and monitoring units for 4 - 8 - 16 - 32 - 64 - 128 - 256 sensors max Input signals ing. 4-20 mA or RS 485 serial communication

2 closed loops RS485 (EIA-485) galvanically isolated

Alarm relay outputs max 256

Installation in SAFE area or ATEX and SIL 1 / SIL2 certified (EN50402

Event memory that can be consulted from the display or

downloaded on a PC

Liquid crystal graphic display + double row 9 LED optical indications
The control units are available in IP65 plastic box or 19 "rack



OF GAS DETECTION A MICROPROCESSOR



#### **GAS MEASUREMENT AND SENSORS**

DETECTORS
OF FLAMMABLE GAS

Infrared pellistor sensor / catalytic sensor
ATEX classified areas EExd Group I / Group II / Group III / SIL 2 HW, SIL3 SW certified
Wide range of usable sensors and detectable FLAMMABLE gases
Standard signal 4-20mA on 3 wires / 0-100% LEL
Zero tracker to counter possible drift
Optional RS485 interface for communication with Modbus protocol
Continuous self-diagnosis of the system
Optional 3-relay output card

DETECTORS OF GAS F6 / REFRIGERANTS



Infrared pellistor sensor
Areas classified ATEX EExd Group II / Group III / SIL 1 HW, SIL 1 SW certified
Wide range of usable sensors and detectable COOLANT gases
Standard signal 4-20mA on 3 wires / 0-2000 ppm
Zero tracker to counter possible drift
Optional RS485 interface for communication with Modbus protocol
Continuous self-diagnosis of the system
Optional 3-relay output card

DETECTORS OF TOXIC GASES / PRESENCE ASPHYSIA



Infrared pellistor sensor / catalytic sensor
Areas classified SAFE
Usable sensors and gas O2 / CO / CO2 / NO2
Standard signal 4-20mA on 3 wires / Range% Volume / Ppm
Zero tracker to counter possible drift
Optional RS485 interface for communication with Modbus protocol
Continuous self-diagnosis of the system
Optional 3-relay output card

# **ODVIEXER**

#### **ANALOG / DIGITAL INTERFACES**

TRANSMITTERS /
CONVERTERS /
GALVANIC INSULATORS
ANALOGS





Enclosure type: from DIN bar / DIN B head
Analog input type: Tc, RTD, Res, Pot, mV, V, Ma
N° analogue inputs: single / double
Analog Output Type: 0-20mA, 0-10V
N° Analog Outputs: single / double
Alarm threshold: Yes / digital output / relay output
Galvanic isolation: YES
Power supply: 20-30Vdc

**Communication / Configuration: PC / DIP Switch** 

REMOTE I / O MODULES
COMMUNICATION
DIGITAL



Container type: from DIN bar
Input type: Tc, RTD, Res, Pot, mV, V, mA / digital NPN -PNP /
N° of inputs: single input / 4 inputs / 8 inputs / 16 inputs
Output Type: 0-20mA, 0-10V / digital PNP / Relay
No. of outputs: 4 outputs / 8 outputs
Field bus communication: RS 485 MOD-BUS RTU- ASCII - / CAN OPEN
Communication / Configuration: PC) / DIP Switch
Corporate network communication: ETHERNET MOD -BUS
Communication / Configuration: INTEGRATED WEB SERVER INTERFACE
Galvanic isolation: YES
Power supply: 20-30Vdc

# ELECTRONIC PROCESS INSTRUMENTATION Eurotherm



Enclosure format: 48 x48 / 96 x 48/96 x96

Display: 4 digit LCD + 5 alphanumeric characters - 5 digits. + 9 alphanumeric characters

Messages: programmable sliding strings with 128 characters Selectable inputs: TC - RTD - mV -mA. V dc / strain gauge N° alarms: 4/8 change of display color in case of alarm

Relay output number: 2/3/7 No. of digital inputs: 2 **Built-in power supply: 24 Vdc** 

Serial communication: RS485 MOD-BUS / DEVICE NET / PROFIBUS

INSTRUMENTATION ELECTRONICS DIGITAL INDICATORS

Enclosure format: 48 x48 / 48 x 96 vertical / 96 x96 / 96 x 48 horizontal

Messages: programmable sliding strings with 128 characters

Function with remote set point / analog retransmission

Freely configurable output functions: for regulation / alarms / signal retransmissions T.A input for current measurement / partially interrupted load alarms or low insulation

**Functions: integrated timer for energy totalizations** 

Programmer functions max. 10 with ramps - stasis - descents from 8 to 240 segments

Function: dual redundancy analog input / Zirconia sensors / math functions

RS 485 serial communication Mod Bus master / slave or Ethernet network Mod Bus TCP -IP

Available certifications: CE- UL - CSA - EAC -CCC- AMS2750



INSTRUMENTATION **ELECTRONICS PROCESS REGULATORS** 

Integrated multi-loop regulation function from 2 to max 16 PID loops

Hardware modularity function I / O cards

Double / triple analog input function: for separate adjustments

Mathematical functions for adjustment: CASCADE / RATIO / OVERRIDE / ZIRCONIA Programmer functions max. 50 with ramps - stasis - descents max. 500 segments

Functions: timer / totalizations / counter / func. math / logic function and / rx etc

Serial communication: RS 485-422-232 MOD BUS master / slave Serial communication: PROFIBUS / DEVICE NET / EL BISYNCH

Corporate network communication Ethernet Mod Bus TCP - IP / Ethernet IP



INSTRUMENTATION **ELECTRONICS** PROCESS REGULATORS **MULTI LOOP** 

Display recorders: TFT 3 1/2 "-/Touch screen 5.5" - 12 "VGA - XGA

Inputs: 4 - 48 analog / digital inputs

Software inputs: up to 128 virtual channels

Mathematical functions / counters / totalizers / timers

Internal flash memory: 50/96 Mb / external USB memory - SD CARD 16 Gb

Double serial port: RS 422-485 Mod Bus RTU master - slave

RJ45 Ethernet port 10 / 100T Mod-bus TCP-IP - FTP - Ethernet IP server -web server

Bridge Flull software for remote parameter display and setting

**REVIEW software for data storage** 

Batch function options / PID regulation double loop function / Programmer function



INSTRUMENTATION ELECTRONICS **VIDEO RECORDERS** 

PLC versions with recording / control / actuation function

**CODESIS platform programming environment** 

**EUROTHERM function blocks: - high level PID control** 

- special settings Cascade / Ratio / Overrraide
- recording with BATCH function
- ramps -stasis-downhill set point programmer

**Complete integrated PLC function block libraries** 

N°I/O that can be managed: 256 slots for number of inputs / outputs from a minimum of 4 to a maximum of 4000 total



INSTRUMENTATION **ELECTRONICS PLC SCADA AUTOMATION** 

#### **ON / OFF VALVE ACTUATORS**



SOLENOID VALVES
GENERAL APPLICATIONS



Type: Direct / indirect / mixed actuation
Functionality: 2-way NC / NO / Universal / 3/2-way N.C / 5/2-way
Connections: from 1/8 "GAS -NPT to 3" GAS -NPT /
Material: Brass / Brass with low lead content / Stainless steel 316
Seals: NBR / NBR + PE / FKM / PTFE / H-NBR / EDPM / RUBY / POM
Kv flow rate (I / min): from 0.4 to 1400 I / min
Fluid temperature: from - 40 ° C to 90 ° C / 140 ° C / 180 ° C
Maximum operating pressure: - 1 bar to + 40 bar
Coil power supply: 12 -24 Vdc / 24 -110 - 230 Vac class F / H
Certifications: CE - UL- CSA- VDE

VALVES
SPECIAL APPLICATIONS

Applications: Industrial Oxygen / High Pressure / Food NSF / Combustible Gases / ATEX / Applications: Hose clamp / aseptic fluid separation / Inclined seat / Coaxial / Technopolymer Electric control power supply: 12 -24 Vdc / 24 -110 - 230 Vac class F / H Single acting / double acting pneumatic control Connections: from 1/8 "GAS -NPT to 2" GAS -NPT / Flanged DN15 DN100 / Push-in Ø 4-6-8 mm Combustible Gases: Methane, LPG, Carbon monoxide and others Fluid temperature: from - 40 ° C to 90 ° C / 140 ° C / 180 ° C Max operating pressure: - 1 bar to 150 bar Certifications: Food NFS / MOCA / WRASP Certifications: ATEX II 2G Ex d IIC T6 or T5 Gb II / 2D Ex tb IIIC T80 ° C or T90 ° C Db IP67 Certifications: ATEX II 2G Ex mb IIC Gb / II 2D Ex mb IIIC t 130 ° C Db / IEC Ex m II T4

#### **PROPORTIONAL VALVE ACTUATORS**

VALVES
REGULATION
PNEUMATIC CONTROL

Type: GLOBE / MEMBRANE / INCLINED SEAT / BUTTERFLY / BALL valves
Functionality: 2 PROPORTIONAL WAYS / 3/2 DIVERTER / MIXING WAYS

Connections: from 1/8 "GAS - NPT to 2" GAS NPT / Flanged DN15 DN100 / Tri-clamp / To be welded

Material: Brass / Stainless 304 / 316L / PVDF / PP / PVC / Hastelloy -Titanium / Tantalum

Seals: NBR / FKM / PTFE / EDPM

Fluid temperature: from - 40 ° C to 200 ° C
Max operating pressure: - 1 bar to 25 bar
Kv flow rate (I / min): from 2 to 3900 I / min
Pneumatic connections: 1/8 "GAS / Push-in Ø 6 mm

Pneumatic supply: 0.5 -7 Bar / 0-10 V dc set point input signal

Integrated electro-pneumatic control: 4-20 mA / 0-10 V dc set point input signal Power supply: 24 V.dc

Integrated PID regulation option: Pt100 or 4-20 mA input or 4-20 mA frequency / output
Communication bus option: Profibus / Device Net / Ethernet IP / Profinet / Mod bus TCP
Certifications: ATEX Exia / UL / CSA / CE / FDA / 3A / EHEDG

Type: Globe valves / Diaphragm / Inclined seat / Butterfly / Ball / Proportional solenoid valves
Functionality: 2 PROPORTIONAL WAYS / 3/2 DIVERTER / MIXING WAYS
Connections: from 1/8 "GAS -NPT to 2" GAS NPT / Flanged DN15 - DN50 / Tri-clamp / To be welded
Material: 304 / 316L stainless steel / PVDF / PP / PVC / Hastelloy - Titanium / Tantalum

VALVES REGULATION ELECTRIC CONTROL

Seals: NBR / FKM / PTFE / EDPM
Fluid temperature: from - 40 ° C to 200 ° C
Max operating pressure: - 1 bar to 25 bar
Kv flow rate (I / min): from 2 to 3900 I / min
Electrical connections: M12 connector

Integrated electric control: 4-20 mA / 0-10 V dc set point input signal

Power supply: 24 V.dc

Integrated PID regulation option: Pt100 or 4-20 mA input or 4-20 mA dc frequency / output Communication bus option: Profibus / Device Net / Ethernet IP / Profinet / Mod bus TCP

#### **VALVE ACCESSORIES**

Valvole di intercettazione manuale

Valvola a sfera 2- e 3-vie con filettatura G ¼ "... G3" Materiale: ottone nichelato / inox / Max. pressione: PN 64

Max. temperatura: 150 ° C / 220 ° C

Valvole regolazione manuale

Connessioni: G 1/8 ... G 2 Materiale: ottone / inox

Max. pressione: PN 250 (PN250) Max. temperatura: 120 ° C

Filtro Riduttore di secondo stadio

Connessioni 1/4 "÷ 1 1/2" Acciaio Inox 316, / Alluminio Capacità filtrante 5-50 um / capacità tazza 500 cc Pressione ingresso / uscita 50 / 0,8-30 Bar / EAC, PED, Atex

Riduttore pressione 1°/2°/3 stadio

Connessioni filettate 1/4 "÷ 2" / Flangiate DN40-d DN 100

Materiale Acciaio Inox 316, / Alluminio

Pressione ingresso max 500 bar / uscita min 5- mBar

Fluidi aria compressa / gas / liquidi

Valvola di sfioro di 1°/2°/3 stadio

Connessioni filettate 1/4 "÷ 2" / Flangiate DN40-d DN 100

Materiale Acciaio Inox 316, / Alluminio

Pressione sfioro max 250 bar / minima 5- mBar

Fluidi aria compressa / gas / liquidi

Filtrazione 20-30-80-100 Mesh

Connessioni filettate 1/4 "÷ 3" GAS / NPT

**Materiale Acciaio Inox 316** 

Max. temperatura: 220 ° C / Max. pressione: PN 55















Models: TRIAC static relay / DOUBLE SCR static relay in antiparallel

**Drive Type: Zero Crossing / Phase Angle** 

Load Type: Electric / Infrared Medium Wave Heaters / Primary Electric Transformers

Electric connection line: Single-phase / Double Single-phase / Three-phase / Three-phase + neutral

Control current: 5A -10A - 15A -20-A - 30A - 45A - 65A- 85A - 125A - 150A -180A -225 A

Load voltage: from 220 to 440 Vac

Control Current Signal: Logic 24 Vdc on / off / Continuous 4-20 mA / 0-10Vdc

Power supply: 24 Vdc not isolated

Integrated passive diagnostics: LED indicating the presence of the load and the control signal

Active integrated diagnostics: Out.24 Vdc alarm Fuse break / Total load break /

Out.24 Vdc SCR breakage alarm / Heatsink above 85 ° C

Internal protection: RC for overvoltages / RC - Varistors for overvoltages - overcurrents

Cooling: Air with built-in fan at least 40A alim. 24 Vdc / 220Vac

Radiator overtemperature alarm: Built-in thermostat Max 80 ° C N.C 2

CUSTOM executions: Single-phase / three-phase multi-zone groups max 12 SCR

on a single heat sink

**Mounting: DIN bar or fixing brackets** 

Accessories: Three-phase digital panel ammeter with load imbalance alarm threshold

Accessories: Integrated single-phase voltmeter / ammeter

















#### **ELECTRIC ACTUATORS**



UNIT AT TIRYSTORI EVOLVED Models: DOUBLE SCR static relay in antiparallel
Drive Type: Zero Crossing / Phase Angle
Type of control: Logic 24 Vdc on / off / Continuous 4-20 mA / 0-10Vdc
Load Type: Short / Medium Wave Infrared Heaters / Primary Electrical Transformers /
Electric Heaters / Silicon Carbide Heaters / Molybdenum Heaters
Electric connection line: Single-phase /

Double Single-phase / Three-phase / Three-phase + neutral
Control current: from 16A to 630 A built-in electronics
CUSTOM control current: 800 - 4000 A separate electronics
Cooling: by air / water

Load voltage: from 110 to 690 Vac

Parameter configuration: integrated 4-line 10-character display + configuration keys
Local display: Voltage / absorption / power consumption / operation alarms
System alarm diagnostics: Mains failure / Mains voltage reduction / Fuse breakage /
over temperature / grid frequency threshold / power module power failure
Process alarm diagnostics: Total / partial load break / over current threshold /
min / max threshold mains voltage / analog output short circuit / load imbalance /
Energy meter: Measures and totalizes instant / partial and total energy consumption in Kw / h
Communication protocols: Mod Bus Rtu / Mod Bus TCP IP / Profibus / Device Net / CanOpen / Ethernet IP / Profinet / Ethercat

#### **ELECTRIC HEATERS**





Band resistors: 80/20 Nickel Chrome Wire - Mica and Ceramic Insulation
Diameter: from 70 to 500 mm length from 20 to 500 mm
Operating temperatures: max. 300 ° C execution.
Mica max. 500 ° C execution ceramic

Flat resistors: 80/20 Nickel Chrome Wire - Mica and Ceramic Insulation
Width: minimum 15 mm / Length on request
Electrical outputs: cable / screw terminals / connector / ceramic terminal





Resistors for nozzle: 80/20 Nickel Chrome wire - Mica insulation
External sheet: brass with watertight terminals /
stainless steel with closing exit terminals
Diameter: from 20 to 100 mm length from 20 to 60 mm

Microtubular resistors: 80/20 Nickel Chrome wire - MgO insulation / stainless steel sheath Available sections: Ø 4.0mm / sect. square 3.2 x 3.2 4.0 x 2.5 - 4.3 x 2.2 - 3.2 x 1.8 mm

Length development: from 250 to 1800 mm

Special execution: with built-in thermocouple





Cartridge resistors: 80/20 Nickel Chrome wire - MgO insulation / stainless steel sheath
Diameter: metric size from 6.5 to 20 mm / inch sizes from 1/4 "to 3/4"
Length: from 25 to 1000 mm
Special execution: with built-in thermocouple

Infrared resistances: 80/20 Nickel Chrome wire - Ceramic parabola insulation Parabola execution: Curved / Flat dimensions 122 x 60/245 x 60/122 x 122 mm Power: from 125 to 1000 Watts Special execution: with built-in thermocouple

Armored heating elements: 80/20 Nickel Chrome wire / stainless steel / copper / Incoloy sheath

Diameter: metric size from 6.5 to 16 mm single-phase / three-phase execution Process connections: threaded from 1 "to 2 / ½ / flanged from DN 65 to DN 300 Length development: from 250 to 3000 mm / IP 40/55/65 enclosure electrical protections

Finned resistors: 80/20 Nickel Chrome wire - MgO insulation / stainless steel / iron sheath
Diameter: from 10 to 16 mm single-phase execution for static air / max 10 m / s
Length development: from 250 to 3000 mm / Coil electrical protections IP 40/55 /
Direct process connections: 3/8 "to ½ threaded

Resistors for GALVANIC: Wire Nickel Chrome 80/20 –Isolam. in ceramic or teflon /
Monotubular execution: Porcelain / Technical glass / Quartz / Teflon / Stainless steel /
Titanium / Teflon cable execution on protection structure: PVDF / PP material
Execution: single-phase / three-phase
Power: from 1000 to 12000 Watts



# ELECTRONIC INSTRUMENTATION FOR HAVAC / CATERING / REFRIGERATION



**ZONE room controller for regulation and control applications in radiant panel systems** 

**ZONE room controller for air handling units** 

**ZONE room controller suitable for all types of fan coils - FAN COIL** 

Antifreeze thermostats / Immersion thermostats
Duct thermostats / Room thermostats
Contact thermostats / Wall-mounted room thermostats

Differential pressure transmitter for air CO2, CO, VOC transmitters Humidity and temperature transmitters Duct / wall humidistats

Level switch
Switches for air and liquid flows
Differential pressure switch for air

Damper actuators / Spring return damper actuators
Electric actuators for motorized valves
2 and 3-way flanged valves according to DIN standards
Control valves intended for use in heating and cooling systems
and ventilation





Beverage coolers / Refrigerated counters /
Refrigerated cabinets / Refrigerated islands /
Refrigerated display cases / Ice cream and pastry counters /
Butcher's counters / Laboratory refrigerated cabinets /
Cold rooms / Temperature / humidity and seasoning cabinets /
Refrigerated display cabinets





Blast chillers /

Electric ovens / Electric ovens for bread and pizza /
Combi electric ovens / Electric rotisserie ovens /
Electric ovens for gastronomy / Electric ovens for pastry /
Temperature / humidity and seasoning cabinets /
Retarder-proving cells







# ELECTRONIC INSTRUMENTATION FOR HAVAC / CATERING / REFRIGERATION

CONTROLLERS
FOR THE CONDITIONING
OF AIR



Controllers for single-circuit and dual-circuit chillers with up to 6 compressors
Controllers for single-circuit and dual-circuit chillers with a maximum of 3 compressors per circuit
Sequencer for heat pumps and chillers
Controller for heat pump DHW heaters

Controllers for mechanical ventilation units with heat recovery

Controllers for air renewal units with cross-beam heat recovery unit e

heating coil

Controllers for single or double flow air handling units with seasonal operation
(with 1 battery) and yearly (with 2 batteries)
Controller for dehumidifiers with heat recovery
Autonomous module for air conditioning of 2 zones



Dimensions: 4/8/10 DIN modules

Analogue inputs: n ° from 10 to 16 inputs for sensors PTC-NTC-PT1000-4-20 mA - 0-10V-0-5V Digital inputs: n ° from 5 to 9 inputs Logic on / off PNP-NPN 24 Vdc / clean contact / clean contact pulse trains up to 2 KHz

Analog outputs: 3 to 8 0-10 Vdc outputs / PWM pulse train logic Digital outputs: n ° from 6 to 14 SPST - SPDT @ 2 -3-8 A electromechanical relay outputs

Communication ports:

- TTL Modbus / Intrabus / RS-485 Modbus slave
- RS-485 (Modbus master / slave, BACnet MS / TP)
- Can-Open / USB / Ethernet (MODBUS TCP, Web Server, BACnet IP



#### We also supply the following brands for industrial automation

















# **SERVICES**

#### **TECHNICAL SERVICES THERMAL PROCESS CONTROL**





- Support and Start-Up for electronic controllers PID controls on industrial plants and machines
- Technical and application consultancy for the control and measurement of temperature in industrial processes
- Pyrometric controls in accordance with AMS27-50 F
- On-site services for thermal uniformity (TUS) and accuracy (SAT) control tests
- System checks of oven tools

#### CALIBRATION & CERTIFICATION SERVICES







- We perform calibration services for instrumentation and sensors with the release of ACCREDIA and ISO certificates
- Verifications in the laboratory or in the instrumentation field using sensors and field test or second line calibrators for temperature pressure humidity measurements with release of certificates

#### INDUSTRIAL AUTOMATION SERVICES

- ✓ Study and delivery of electrical command and control systems
- Robot integration
- Development of palletising systems with integrated traceability
- Development of integrated vision systems





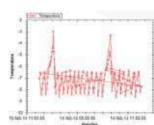




#### INDUSTRIAL SOFTWARE LOGGER / TRACK / VIEW SERVICES

- √ Remote assistance on systems
- Support of network services for data management
- ✓ Interfacing with databases (SQL Server MySQL)
- ✓ Software development for .NET room supervision systems (licence free)
- ✓ Software development for commercial supervision systems (WinCC - Climpicity - Intouch)





#### TECHNICAL TRAINING SERVICES

We carry out EUROTHERM technical courses aimed at all technical operators and maintenance workers of industrial plants

Technical courses Eurotherm bv Schneider Electric



- √ Theory and functioning of SCR static units
- ✓ PID regulation theory
- ✓ Eurotherm PLC control unit
- ✓ Eurotherm Data Recording and Management Unit



Global Trade srl since 1995 is organized to respond in real time to market needs with innovative products respecting rigorous and modern order management criteria.

It forms a synergistic group together with the company Global Infotech srl and Ellegi Electron sas, based in Turin where it has commercial, administrative offices and the product warehouse. Through the Rome office it covers Central-Southern Italy.

The company has always offered itself to its customers as a reliable and sensitive partner to problems related to industrial plant engineering. Fundamental, in such a delicate sector, is the technical assistance offered to solve doubts and problems that arise during the design phase.

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