

## Digital Panel Meters id20

- One or two display (1") versions.
- Configurable from PC computer.
- Thermocouples, Pt100, 4..20ma, 0..10V (Id20-bas).
- True RMS AC/DC Volt/Amper meter (Id20-vac).
- Tachometer 0.01 Hz.. 50KHz (id20-tac).
- 4 alarms associated to 2 output relays.
- Latch and alarm standby function.
- Isolated 4..20ma and 0...10V outputs.
- RS485 modbus RTU serial communications.




---

### General description

The id20 industrial panel meters is composed by 3 models (id20-bas, id-vac, id20-vac) that covers a broad range of inputs.

Each model is presented on versions of one (3 1/2 digits) or two (4 digit) displays and several optionals that help to configure the required instrument.

As standard all instruments comes with 2 output relays and a complete programmable alarm system.

### Inputs

The **id20-bas** is the basic version of the instrument, includes thermocouples, Pt100, 4...20mA, 0...10V and 0...50mV inputs. This is the most common instrument.

The **id20-vac** is a AC true RMS voltmeter and amperimeter (and bipolar DC also) with several input scales. May be used with shunts, current transformers or direct measurement of AC/DC voltages up to 600V.

The **id20-tac** is a tachometer or rate meter, only admits pulse inputs e.g.. NPN, PNP and Mechanical Switch. Frequency measurement is done counting the input pulses and simultaneously measuring the time among them. This method allows precise and quick readings especially at low frequencies where the measurement is obtained mainly from the period among pulses. Also simplifies the input programming, not having to define "time windows" in which the count is carried out.

### Alarms

Possesses two output relays, each one corresponds to 2 programmable alarms (high and low). Alarms can be absolute or relative to a general set point. Includes alarm latch and inhibit when changing set points ("standby").

### Readings

Versions of one and two displays are almost identical, except that one display instruments does not have frontal push bottoms so only can be programmed with help of PC and RPS software. Also the maximum reading is limited to +-1999 one display versions.

Registers the measured variable maximum and minimum readings.

### Switching power supply

The instrument has a current mode switching power supply that allows a wide range of input voltages. Simultaneously makes the instrument extremely resistant to spikes and fluctuations of voltage network.

---

## TECHNICAL SPECIFICATIONS

---

### INPUTS

**id20 and id20-iac:** Resolution 16 bit a/d, CMRR 100 dB min., 400 VAC. Min.  
Input break protection TC with preset action.  
Thermocouples (100 ohm max.): Centigrade Degrees or Fahrenheit  
J (-60, 760) °C  
k (-100, 1372) °C.  
T (-86, 400) °C.  
R -1 mV, 1767 °C.  
S -1 mV, 1764 °C.  
B -1 mV, 1815 °C.  
N (-139, 1298) °C.  
E (-176, 750) °C.  
Platinel (0, 1394) °C.  
C (0, 2314) °C.  
D (0, 2314) °C.  
G (0, 2313) °C.  
PT100 ( -136, 450 ) °C DIN43760, alpha=0.0385  
4...20 mA, 0...20 mA, 0...5 V, 1..5 V, 0..10 V, 0..50 mV, scalable for engineering units.

**id20-vac:** Resolution: 18 bit a/d, CMRR 100 dB min., 400 VAC. Min.  
Dc: Bipolar simetrical input (positive/negative voltages/ currents)  
Ac: True RMS.  
Scales: 5 Amperes, 60mV, 2V, 6V, 20V, 60V, 200V, 600V

**id20-tac:** Pulse inputs: NPN, PNP, Mechanical switch, TTL, High voltage (500 V) and magnetic pickup (200mVAC min.)  
Provides feeding for input sensor, +5, -7.5 Vdc, 30mA max.  
Frequency range 0.01Hz ... 50KHz

**READINGS:** Allows engineering units with decimal places.  
Register max/min readings.  
Versions:  
2 display 4 digits (14mm , 9mm ) , range -999...9999  
1 display 3 1/2 digitos (26mm ) , range -1999... 1999 (no frontal push bottoms)

**ALARMS:** 2 independent alarm outputs, each one with high and/or low alarm, with absolute or relative set point.  
Programmable alarm latch and "standby" that inhibits alarms when modifying set points).

**OUTPUTS** Relays, 2 outputs for alarms 250VAC/ 3A., normally open or normally close by software.  
Optionals:  
-420L 4... 20 mA, loop powerd, Vdrop 4.5V max. opto isolated (5kV).  
-420A 4..20ma/0-10V Active loop, opto isolated (5kV).  
-RS485 RS485 modbus RTU serial communications, opto isolated (5kV).

**POWER SUPPLY:** Current mode switching power supply.  
Versions:  
85...260 Vac, 6 W, 45...65 Hz.  
20...60 VDC, 6 W, (optional)

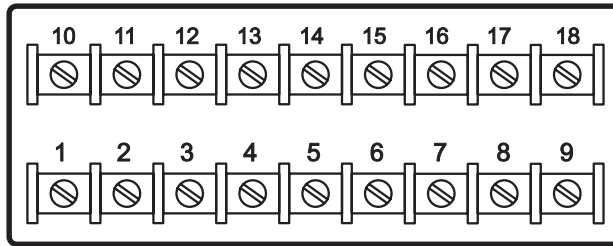
**CONSTRUCTION:** Aluminum and y Polycarbonate; IP65  
Total Dimension: DIN 1/8; 96 x 48 x 135 mm.  
Panel cut: 92 x 45 mm.  
Weight: 300 grams.  
Operation temperature: 0 ... 50 °C.

**CE Directives:** 2006/95/EC (LVD) Low Voltage Directive  
2004/108/EC (EMC) Electromagnetic compatibility directive

**STANDARDS:** Safety: IEC61010-1:2010  
EMC immunity: EN61326-1:2006 Industrial locations.  
EMC emissions: EN61326-1:2006 Class B.

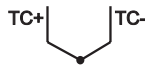
id20-bas  
Conexiones eléctricas

RS-485		ANALOG OUT	
B	A	Gnd	+V
		-I	+I



V+ Gnd	90..260Vac	OUT 1	OUT 2
ENTRADA	P. SUP	RELE	RELE

Termocuplas



PT100



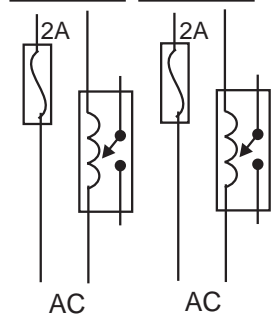
0..20mA, 4..20mA



0..10V, 0..5V, 0..50mV



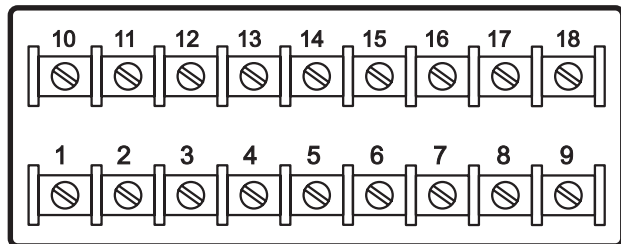
ALIMENTACION



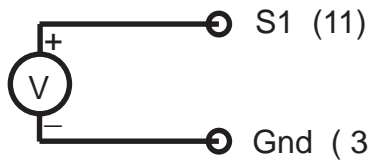
FID2021

Conexiones Eléctricas  
id20-tac

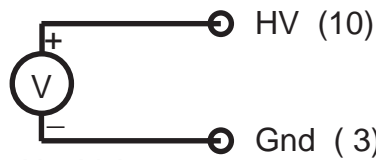
Signal		RS-485		ANALOG OUT	
HV	S1	B	A	Gnd	+V
				-I	+I



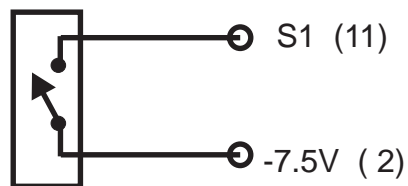
+5 -7.5 Gnd	90..260Vac	OUT 1	OUT 2
Alimentación	P. SUP	RELE	RELE



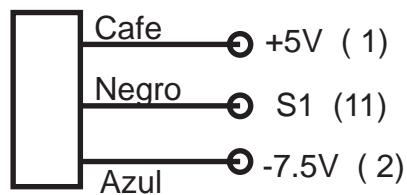
TTL , Pick Up Magnético



Alto Voltage



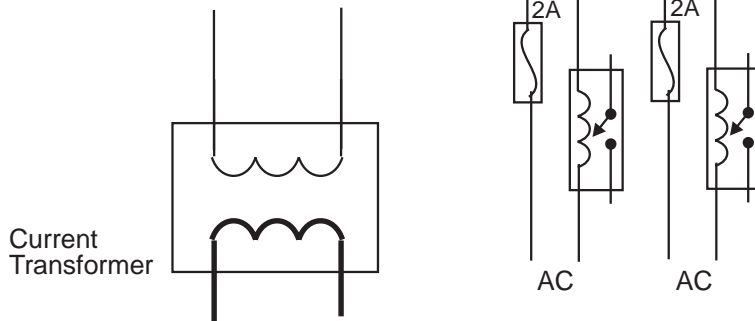
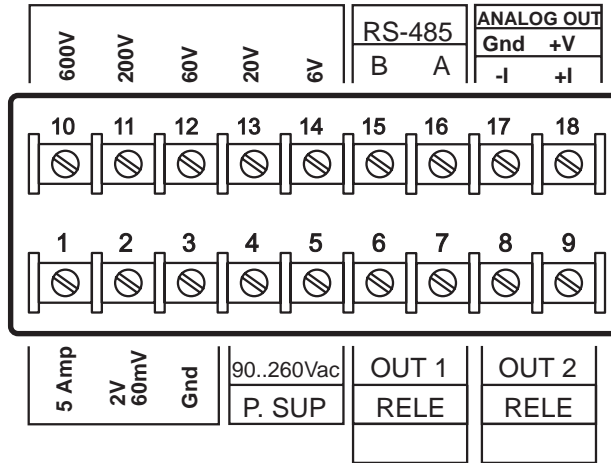
Switch Mecánico



Switch Inductivo NPN o PNP.

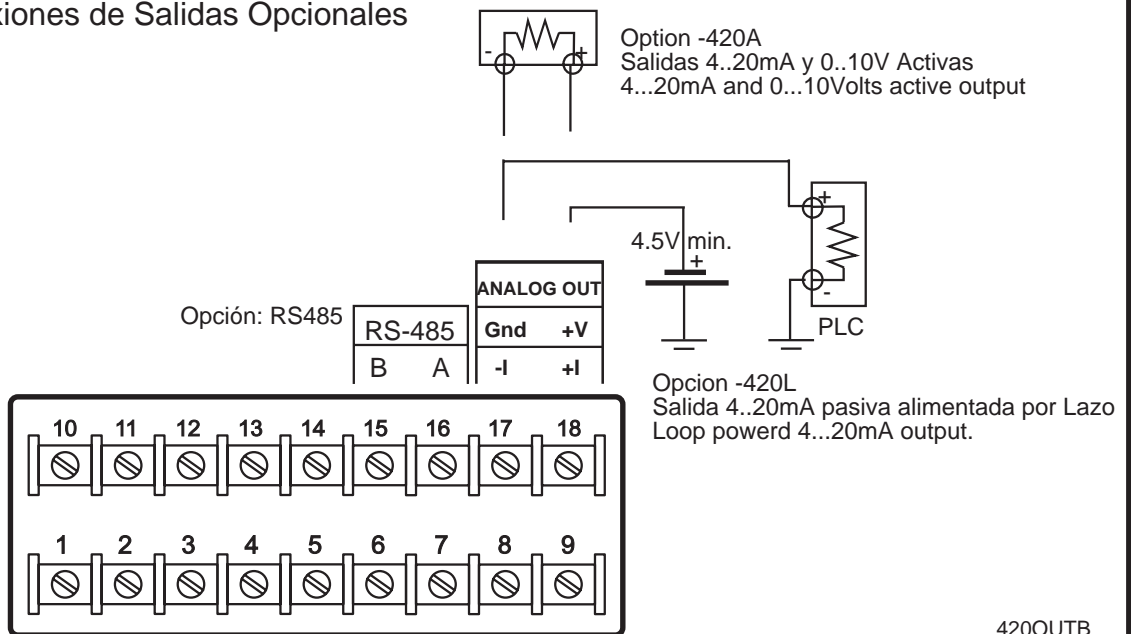
FID2019b

# id20-vac Electrical conections



FID2022B

## Conecciones de Salidas Opcionales



420OUTB

---

## PART CODES:

Part number must be done selecting the following alternatives. Last 2 ones (-420A, -420L), -RS85 are optional that must not be included if no required.

ID20-

---

-BAS :basic version, for thermocouples, pt100, 0-10V, 4-20ma, ...  
-TAC :rate meter  
-VAC :amperimeter, voltmeter DC and AC true RMS.

---

-AC :power supply 85...260 Vac, 6 W, 45...65 Hz.  
-DC :power supply 18...60 Vdc, 6 W

---

-2D4 :two displays, 4 digits each 14mm and 9mm heigth  
with frontal push buttoms  
-1D3 :one display, 3 1/2 digits, 25mm heigth  
without frontal push buttoms

---

### OPTIONAL OUTPUT

-420L :4..20ma pasive loop  
-420A :4..20ma active, includes also 0..10Vdc

---

### OPCIONAL

-RS485 :modbus RTU serial communications

For example:

ID20-BAS-AC-2D4

basic meter, AC power supply , 2 displays, without any optional output.

ID20-TAC-DC-1D3-RS485

Rate meter, DC power supply, 1 display and modbus RTU serial communications.

---

## MORE INFORMATION:

### ARIAN S. A.

El comendador 2340, Providencia  
Santiago, Chile  
Phone 56-2-24218333  
arian@arian.cl  
www.arian.cl