ARIAN
CONTROL & INSTRUMENTATION

id15
Universal Panel Meter

- **Several input types on same instrument.**
- **1” LED displays.**
- **Configurable from PC computer.**
- **Low and high alarm.**

General description

Inputs

The id15 industrial panel meter accept the most common input signal types. May be used with shunts, load cells, current transformers, 4..20ma loops or direct measurement of AC/DC voltages up to 600V. Being field programmable can replace different instruments, reducing factory stock.

Alarms

Two set points for low and high alarm. Once alarm condition is set, display blinks continuously advising the operator.

Switching power supply

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

TECHNICAL SPECIFICATIONS

INPUTS

Resolution:	18 bit a/d, CMRR 100 dB min., 400 VAC. Min.
Dc:	Bipolar symmetrical input (positive/negative voltages/currents)
Ac measure:	Average absolute value, calibrated for sinusoidal wave.
Scales:	DC: +/- 10V, 80V, 600V, 5A, 60mV, 120mV, 20mA, 5A,
	AC: 10V, 80V, 600V, 5A

Input Impedance:

60mV and 120mV	> 10M ohms
20mA	7 ohms
5 Amperes	0.01 ohms
10V	35K ohms
80V	300K ohms
600V	2M ohms

READINGS:

Allows engineering units with decimal places.
3 1/2 digits LED display (26mm), range -1999... 1999

ALARMS:

High and low alarm set points, display blinks on alarm condition. .

POWER SUPPLY:

Current mode switching power supply.
Versions:
85...260 Vac, 6 W, 45...65 Hz.
20...60 VDC, 6 W

CONSTRUCTION:

Aluminum and y Polycarbonate; IP65
Use with a 92 x 45 mm. panel cut (Format DIN 1/8).

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.

PART CODES:

ID15-AC	power supply 85...260 Vac, 6 W, 45...65 Hz.
ID15-DC	power supply 18....60 Vdc, 6 W

INSTALLATION

Depending on the input or sensor type, connections in the terminals should be done as indicated in the drawing.

Terminal #3 (Gnd) is the common ground for all voltage and current inputs.

Terminal #1 is used for 60mV and 120mv scales such as current shunts or load cells.

Terminal #2 is used typically on 4..20ma current loops. It is protected with a 30ma self-reseteable fuse.

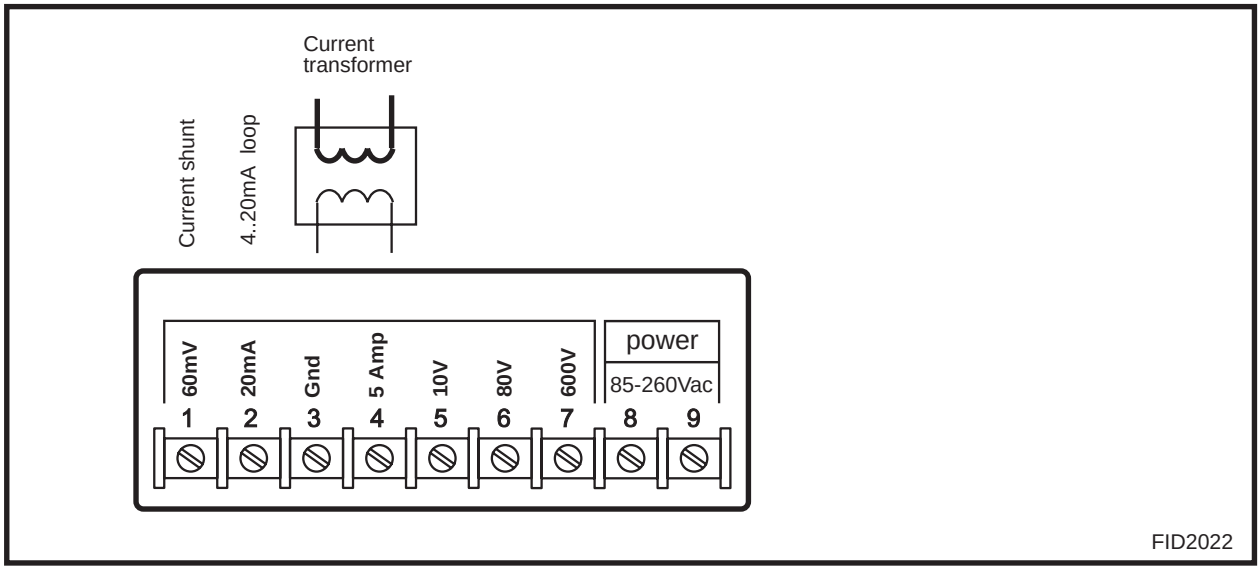
Terminal #4 is used with 5 ampere current transformers (eg. 100A/5A).

Terminal #5 ,10V maximum voltage input.

Terminal #6 , 80V maximum voltage input.

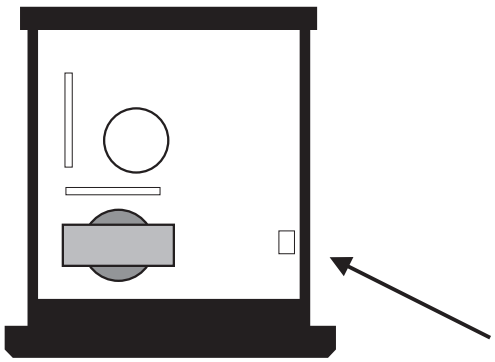
Terminal #7 , 600V maximum voltage input.

Power supply terminals #8 and #9
The instrument power supply is designed to operate with any voltage between 85 and 260 volts without need of adjustment. (20VDC to 60VDC for the DC power supply option). Once start up will continue operating unless the network fall under 50 VAC.



CONFIGURATION

The RPS interface and software must be used for configuring instrument parameters.
Removing top cover gives you access to the RPS conector as pointed in the drawing.



CAUTION:
De-energize before removing top cover.

WARNING:
High voltage on internal power supply circuit.
Device must be de-energized while configuring.

RPS interface connector

id15_17e

The following is needed:

-PC compatible computer with USB port.
-RPS software, download latest version from:
http://www.arian.cl/downloads/arianrps.zip
-RPS Isolating interface. Part# RPS-USB-V3

With de-energized intrument, the interface cable must be conected by one side to the internal conector and other side to the PC USB port.
Once done the conection the RPS software is executed in the PC, there is no need to energize the instrument while is configurated.
The interface optically isolates PC from instrument for safety.
Concluded the programming unplug the interface from the device.

Parameters to be programmed:

A c. d c. Select AC or DC type for input current or voltage.
A c. AC
d c. DC

I n. t Y Select scale and type for the AC or DC input.
Input signal must be contained in one of the following ranges.
1 0.V. -10 to +10 VDC, 0 to 10VAC
8 0.V. -80 to +80 VDC, 0 to 80VAC
6 0 0.V. -600 to +600 VDC, 0 to 600VAC
5. A. Current, -5 to +5A DC, 0 to 5A AC.
6 0 mV. -60mV to +60mV DC
1 2 0 m. -120mV to +120mV DC
2 0 m A. -20mAV to +20mA DC

I n. L o Input signal (voltage or current) lower limit
Reading programmed as Lc.Lo will correspond to this voltage or current.

I n. H i Input signal (voltage or current) higher limit
Reading programmed as Lc.Hi will correspond to this voltage or current.

L c. L o = -1999... 1999
Reading corresponding to the input signal lower limit.

L c. H i = -1999... 1999
Reading corresponding to the input signal higher limit.

P.d i S Places a fixed decimal point in the display for engineering units.

- - - - no decimal point.
- - -. - e.g. 123.4
- -. - - e.g. 12.34

F I L t = 1 ... 16
Corresponds to a time constant for filtering or conditioning noisy inputs. Internally the instrument carries out a first order low pass filter calculation with time constant "FILt". Can be set between 1 and 16 seconds.
Better you should leave this value set to 1 second, increasing it only if its required by having noisy readings.

A L. L o = -1999... 9999
Reading low alarm, display will blink when reading is lower than this preset value. If you don't need this function, set it to a very low value (e.g.. -999)

A L. H i = -1999... 9999
Reading high alarm, display will blink when reading is higher than this preset value. If you don't need this function, set it to a very high value (e.g.. 9999)

P r o g = No, Si
Set "Si" for programming new data. Otherwise data will be lost when quitting this menu.

S A L i = No, Si
Set "Si" for quitting this menu. Otherwise return back to its starting point.

Example 1

You have a signal coming from a 250/5 ratio current transformer. Alarms are not used so values in excess are set for the alarms.

A c. d c. = A c.
I n t Y = 5.A.
I n. L o = 0
I n. H i = 5
L c. L o = 0
L c. H i = 250
P. d i S = - - - -
F I L t = 1
A L. L o = -100
A L. H i = 1000

Example 2

A field sensor output is dc voltage with the range -2V... +10V corresponding to a process value PV = 0... 100% on a linear ratio.

A c. d c. = d c.
I n t Y = 1 0 V.
I n. L o = -2
I n. H i = 10
L c. L o = 0
L c. H i = 100
P. d i S = - - - -
F I L t = 1
A L. L o = -100
A L. H i = 1000

Example 3

A process value 0..1000 is transmited as 4..20mA current loop..
The display must blink if input is greater than 22mA (pv = 1125) or lower than 2mA (pv = -125), indicating open current loop.

A c. d c. = d c.
I n t Y = 2 0 m A
I n. L o = 4
I n. H i = 20
L c. L o = 0
L c. H i = 1000
P. d i S = - - - -
F I L t = 1
A L. L o = -125
A L. H i = 1125

Example 4

You have a 0..120VAC input corresponding to a 0...100% process value. Reading is required with one decimal place (eg 78.1 %)
Also an upper alarm condition must be set on 95%.

A c. d c. = A c.

I n t Y	= 6 0 0 V.
I n. L o	= 0
I n. H i	= 120
L c. L o	= 0
L c. H i	= 1000
P. d i S	= - - - . -
F I L t	= 1
A L. L o	= -100
A L. H i	= 950

Note that reading is set 0..1000 with a fixed decimal point in order to be read as 100.0

CONTACT INFORMATION:

ARIAN S. A.
El comendador 2340, Providencia
Santiago, Chile
Phone/Fax 56-2-24218333
arian@arian.cl
www.arian.cl