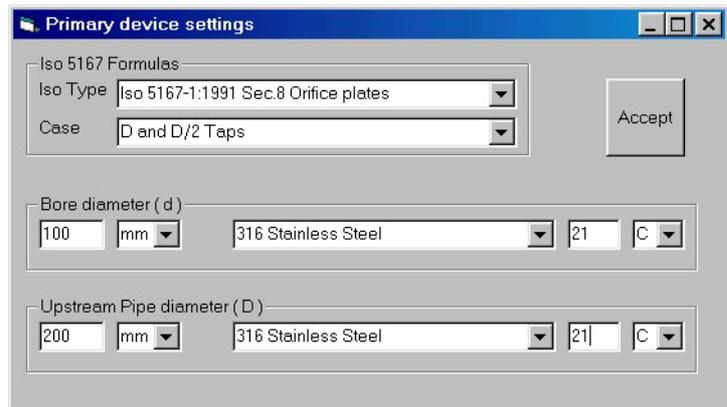


FL40: Iso 5167 mass flow computer and Flow Cad software



General Description:

The FL40 is a multivariable flow computer designed specifically to be used on differential pressure flow measurement devices under ISO5167 standard such as orifice plates, nozzles and venturi tubes.

Differential pressure measurement on the primary device is corrected with upstream pressure and temperature of the fluid in order to calculate instantaneous mass flow .

Arian Flow Cad v2 software included with the FL40 is used to set up the device selecting the fluid within a library list, then describe the primary device and calculate discharge coefficients, expansion factor and fluid properties under flow conditions.

Results are stored on a file and loaded to the instrument.

Fluid properties are obtained from:

- NIST Reference fluid thermodynamic and transport properties database (REFPROP) V9.0
NIST database is not included and must be purchased from NIST.
- Aiche DIPPER801 database coefficients.
- Traditional formulas (eg. Real gas equation, Redlich-Kwong)
- Custom lookup tables made from know fluid properties.
- Possibility to create custom mixtures of NIST database fluids.
- Natural gas: AGA No.8 DC92, ISO 12213.
- IAPWS Industrial Formulation 1997 for the Thermodynamic Properties of Water and Steam.

Available Input devices are:

- Iso5167 Primary Device.
- Volumetric input flow rate (eg. paddle wheel, vortex or open channel)
- Spyrax sarco Gilflo ILVA primary element.
- McCrometer V-Cone or Wafer-Cone.

Characteristics:

Inputs

- Standard process variables as 4..20mA, 0..10V,etc. for P , dP and T
- Pt100 or thermocouples for Temperature input.
- Two additional external inputs (dry contact) programmable as reset functions.

Readings

- Totalized flow in 6 high bright 14.5mm height red digits. (Upper display)
- Flow rate in lower 4 digits.
- Continuous memory, stores last reading of the totalized flow.
- Registers maximum and minimum readings of flow rate.

Alarms

- 4 alarms assigned independently to preset values of the totalized flow or rate, linked to the 2 output relays,
- Latch and standby functions.

Outputs

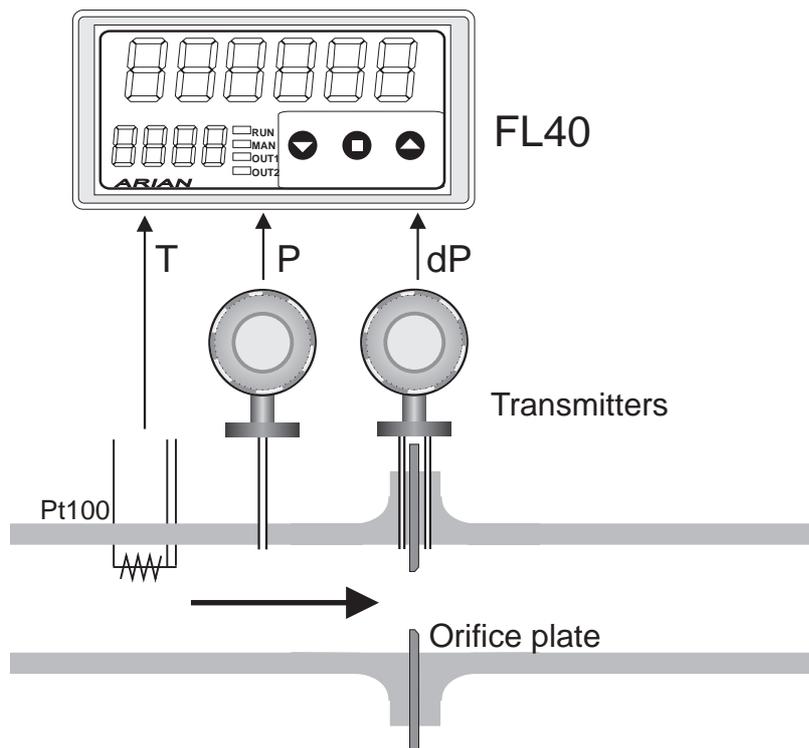
- Two output relays, with two programmable alarms each (high and low)
- Output pulse with frequency proportional to flow rate. Used for external totalizing in PLCs.
- Galvanically isolated analog outputs for the rate meter: active loop 4..20ma ,0...10V, passive loop 4..20ma.

Communications

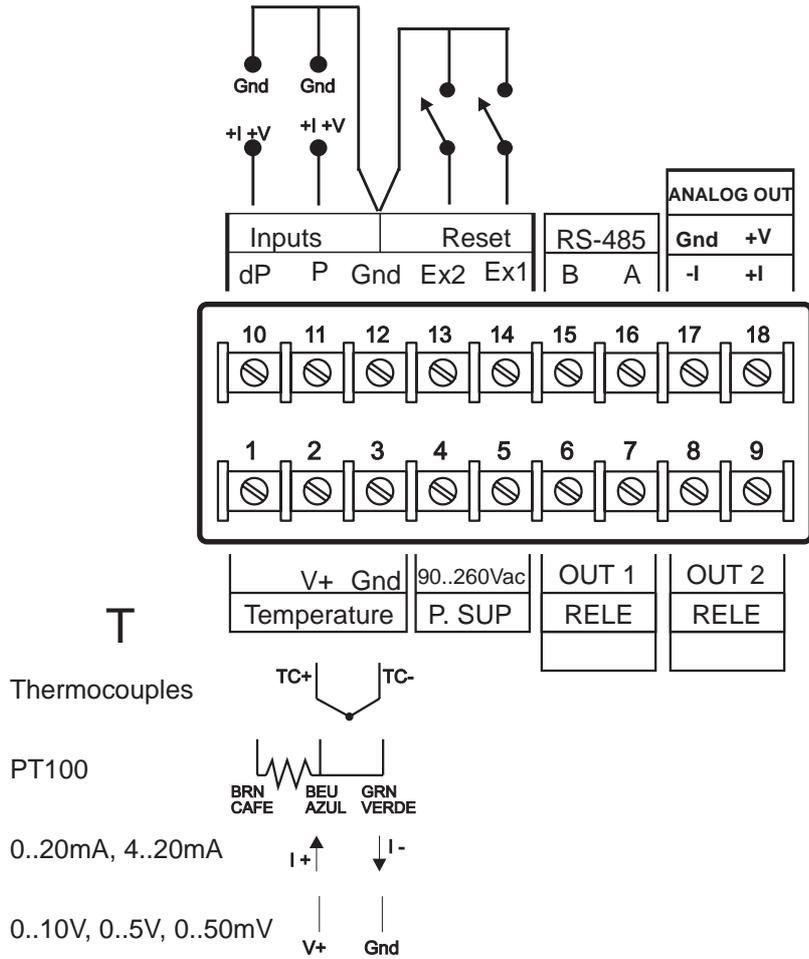
- RS485 Modbus RTU serial communications reports data to a PC or PLC.

Configuration.

- From a PC compatible using Arian Remote Programming Software.
- From frontal push buttons.

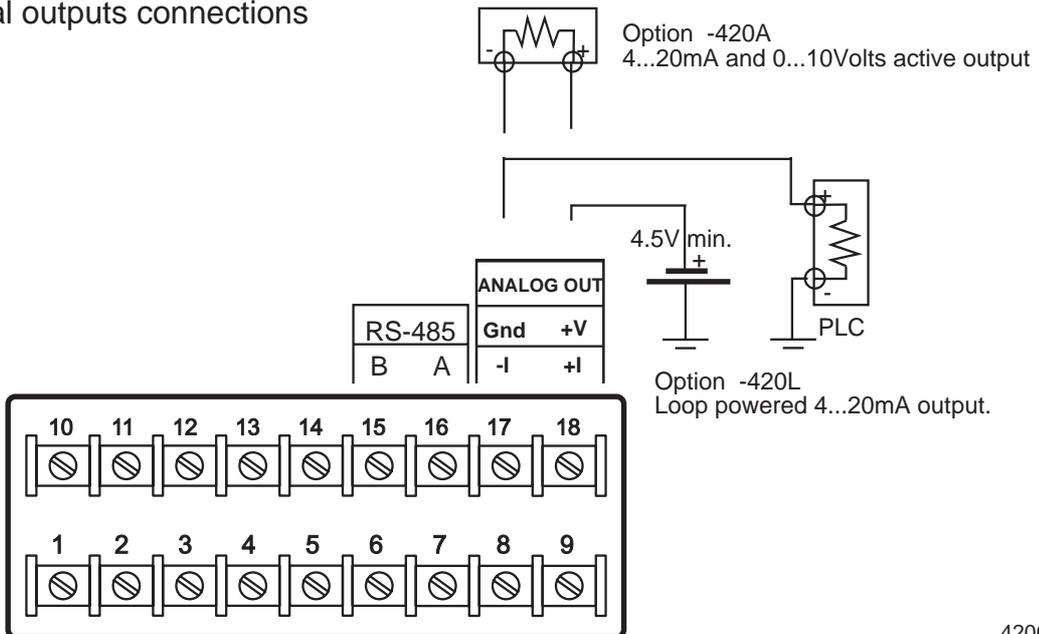


FL40 connections



FL40_c1

Optional outputs connections



420OUTBe

Technical specifications:

Inputs	3 channels for P, dP and T: Pt 100, thermocouples, 4...20 mA, 0...20 mA, 0...5 V, 1..5 V, 0..10 V, 0..50 mV	
Outputs:	Relays, 2 outputs for alarms 250VAC/ 3A., normally open or normally close by software. Optional: -420L 4... 20 mA, loop powered, Vdrop 4.5V max. opto isolated (5kV). -420A 4..20ma Active loop, opto isolated (5kV). -010V 0..10V, opto isolated (5kV). -RS485 modbus RTU serial communications, opto isolated (5kV).	
Power supply:	Current mode switching power supply. Version: 85...260 Vac, 6 W, 45...65 Hz. Version: 20...60 VDC, 6 W, (optional)	
Construction:	Aluminum and Polycarbonate; IP65 Total Dimension: DIN 1/8; 96 x 48 x 180 mm. Panel cut: 92 x 45 mm. Weight: 350 grams. Operation temperature: 0 ... 50 °C.	
CE directives:	2006/95/EC (2004/108/EC	LVD) Low Voltage Directive (EMC) Electromagnetic compatibility directive
STANDARDS:	Safety: EMC immunity: EMC emissions:	IEC61010-1:2010 EN61326-1:2006 Industrial locations. EN61326-1:2006 Class B.

Part codes:

Part number must be done selecting the following alternatives.

FL40

-AC	85...260 Vac, 6 W, power supply.
-DC	18....60 Vdc, 6 W power supply.

OPTIONAL	
-420L	4..20ma passive loop
-420A	4..20ma active.
-010V	0..10 V

OPTIONAL	
-RS485	modbus RTU serial communications

For example:

FL40-AC	AC power supply , without any optional output.
FL40-DC-RS485	DC power supply and modbus RTU serial communications.

For more information:

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