F930 Rev 1.0 – Unipolar Current Transducer Module with process outputs

Isolated measurement of Average RMS AC, and DC currents using a Hall effect transducer with aperture.

Incorporates an integrated 4 Digit LED display, 3 button keypad and power supply.

Choice of standard process level outputs. On site Programmable and includes test output

Electrical Data		
$I_{measure}$	Current measuring range	120mA to 250A
Output	Conditioned signal (400ms response)	0 – 5V, 0 - 10V 0 - 20mA, 4 - 20mA
	Zero adjustment range Over-range	±10% +20%
I_{in}	Supply current (maximum)	150mA(max)
AL1 AL2	Alarms (230VAC)	2 x NO 6 Amp (Relay) 2 x NO 2Amp (SSR)
V_{in}	Operating voltage	9-36V_{DC} or ~~8-24V_{AC}~~
Accuracy		
X	Accuracy @ 25°C	<±0.2%
E	Linearity	<0.15%
F	Bandwidth (-3dB)	DC…20Hz-1kHz
U_d	Isolation 50/60Hz (2 min)	4.3kV
U_w	Impulse withstand 1.2/50uS	8kV
Environment		
T_A	Operating temperature Range	0-70°C
M	Mass	150gms
Mechanical Details		
Rating	IP40	
Size	58(H) x 54(W) x 90(D)	
Material	Polyamide	

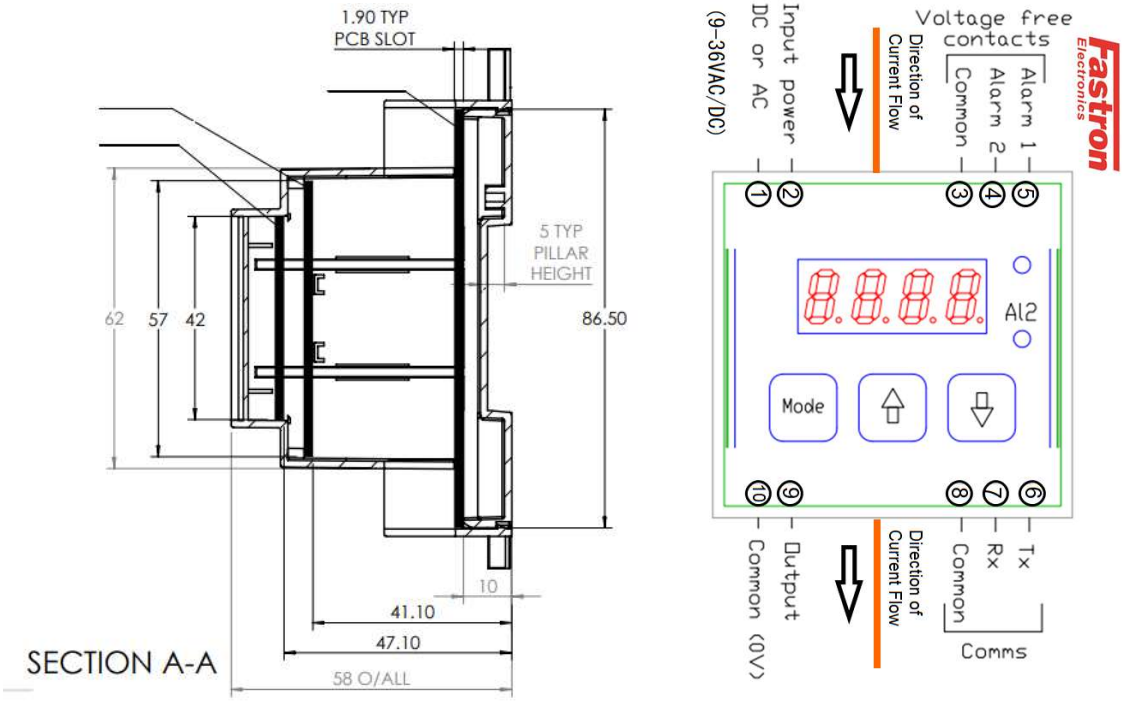
Features

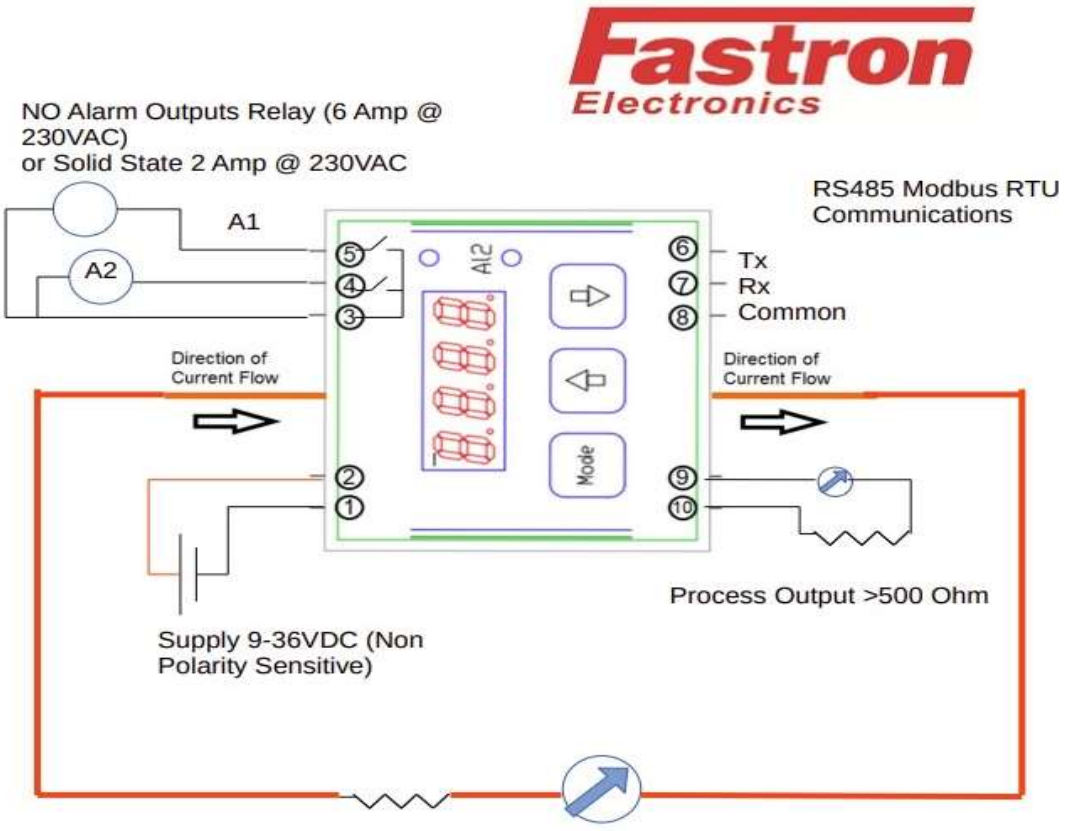
- Fast Response DC Measurement
- Average RMS AC Measurement
- Wide measurement range available
- Choice of standard outputs
- Wide range isolated DC input supply
- DIN Rail mounting
- Choice of AC or DC measurement outputs
- 4 Digit LED Current Indication
- User adjustable zero offset and span controls
- Zero insertion loss in current measurement path
- Earth leakage via differential Ipn for nominal Input ‘Designation -01’
- Fast Response (TBC??) available for DC models
- Unipolar with Bipolar Option(F931)
- Fits in standard Distribution Board

Applications

- Process control
- Transportation
- Petrochemical
- Industrial
- Energy
- Automation
- Earth Leakage
- Datacenters
- Battery Systems
- Charge/Discharge Monitoring
- Renewables
- Smart Grid
- Rollingstock
- DC Substation

Installation & Wiring





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Description of Operation

F930 Current Transducer is designed to measure and transmit AC or DC Currents up to 250 Amp RMS or 250 Amp DC. The actual Current Range is determined by the order code.

1.1 Measurement Input
The source conductor for measurement is inserted through the top aperture located in the centre of the transducer and exits through the lower aperture to allow for the correct directional measurement of current.

1.2 Power Supply
Connect 9-36VDC DC Supply to pins 1 and 2. The connection is not polarity sensitive

1.3 Process Output
Pin 9 is the positive output for +5V/+10V/+20mA transmission output. Pin 10 is Common or 0VConnection. It can also be referred to as GND. The minimum load resistance is 500 Ohm
Zero adjustment by pushbutton +/-10%
Span Adjustment by pushbutton +20% to -60% (of sensor range, see ordering codes)

1.4 Over Range Capability
The transducer uses open loop series Hall Effect Sensors with a short term over range capability of 3 x Ipn. For Models without overrange. Once the measurement range exceeds Ipn, the Process Output becomes saturated. Foir models with overange the range will be 120% maximuym for the measurmenet output

1.5 Over Voltage Capability
A)The over voltage capability in the Power supply is limited to 36VDC
B)For the measurement conductor the transducer can withstand 4.3kV 50Hz for 1 Min without damage to the Transducer

1.6 Alarms (Optional, In Development)
Optional alarms Feature includes 2 x fully programmable NO alarms. These can be either Mechanical Relay 6 Amp @ 230VAC, or Solid State Relay 2 Amp @ 240VAC.
Prgommable Feasures iInclude.
Two Alarm Setpoints
Alarm Types: High Alarm, High/Low Alarm, Flasher Alarm (two points),
Alarms Time Delay/filter up to 10 seconds

Ordering

F930	A	01	200mAC	V1

Output

- C1 = 4-20mA C1B = 4-12-20mA Bipolar
- C2 = 0-20mA C2B = +/-20mA Bipolar
- V1 = 0-5V V1B = +/-5V Bipolar
- V2 = 0-10V V2B = +/-10V Bipolar
- RS485 Only

AC or DC Calibrated (Input Scaling Preset)

Nominal Input	**(Output Span Range)**
04 = 0 ~ 6A	(2 ~ 6A)
05 = 0 ~ 10A	(4 ~ 10A)
06 = 0 ~ 25A	(15 ~ 25A)
07 = 0 ~ 60A	(24 ~ 60A)
08 = 0 ~ 100A	(40 ~ 100A)
10 = 0 ~ 120A	(48 ~ 120A)
11 = 0 ~ 150A	(60 ~ 150A)
12 = 0 ~ 180A	(72 ~ 180A)
13 = 0 ~ 250A	(100 ~ 250A)

XX = External Sensor (5VDC Supplied)

Supply I/P

A = 12/24V_{DC} (9-36V)

If the functionally you require is not contained within this specification please contact Fastron Electronics, other options are continually being developed and we specialise in supplying non-standard or custom solutions.
We reserve the right to change the specification without notice.

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