

## UNIVERSAL INPUT, 5 OUTPUTS, INTEGRAL LCD DISPLAY



- Universal input, programmable ranges, etc.
- 3/4/5 x 4~20 mA (or voltage) outputs
- Input/supply/outputs mutually isolated
- Supply : 85~265 V AC/DC or 20~35 V DC
- Calibration through keys - no trim pots
- 2 x 16 character LCD display
- RS485/MODBUS RTU option

### SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

#### INPUT

##### Input type

###### Standard

Thermocouple  
RTD, 3-wire  
Linear voltage  
Linear current  
Transmitter supply

K, J, E, B, R, S, T, N  
Pt50, Pt100, Cu53  
0~50 mV  
4~20 mA, 0~20 mA  
Available if 4 or less outputs present

###### Non - Std

(Chargeable option)  
RTD, 3-wire  
Linear voltage

Pt-SPL (Pt200, Pt500, Pt1000)  
0~100 mV, 0~200 mV, 0~1 V,  
0~5 V, 0~10 V, etc.  
Note : Standard inputs are always  
available. Non-standard inputs require  
factory changes. If user changes input  
type, the instrument may, for some  
input types, require recalibration.  
For non-std input, give details  
4~20 mA

Current input with  
square rooting

##### Other inputs

Contact sales

##### Transmitter supply

##### Input type selection

###### Standard

###### Non-standard

22 V DC, nominal, 30 mA max  
Through front panel keys  
Through front panel keys and DIP  
switches below detachable top panel  
See Table 1

##### Display range limits

#### MONITORING

##### Sensor break protection

User programmable

#### ACCURACY

##### Linearity & calibration

##### Cold junction compensation

##### Temperature effect on accuracy

##### Supply voltage effect

##### Supply ripple effect, 50/60 hz, 5 Vp - p

See Table 1  
Automatic (for thermocouples)  
±0.02% of span per °C  
±0.002% of span / V  
±0.01% of span

#### OUTPUTS

##### No. of outputs

3, 4 or 5

##### Output type

###### Standard

Current  
Load for current output  
Voltage

0~20 mA, 4~20 mA, 20~0 mA, 20~4 mA  
0~500  
0~1 V DC, 0~5 V DC, 0~10 V DC /  
user specified  
> 10 kohms

Load for voltage output

###### Non - standard

Please specify  
Note : For EACH output, one of the  
Std or Non-standard outputs MUST  
be specified

#### CALIBRATION

ZERO and SPAN through front panel  
keys for each output  
(no trim pots used)

#### ISOLATION

Between input, supply  
and any output, and  
between any two  
outputs

a) 1000 V AC RMS, 50 hz / 1 minute  
b) 250 V AC RMS, 50 hz, continuous

#### POWER SUPPLY

##### Supply voltage

85~265 V AC/DC, 50 hz OR  
20~35 V DC

#### COMMUNICATION

##### Port

##### Protocol

##### Slave ID

##### Baud rate

RS485  
Modbus RTU  
User programmable  
9600

#### ENCLOSURE

##### Material

##### Dimensions

##### Mounting

ABS plastic  
100(W) x 75(H) x 110(D)  
Snap on for 35 mm DIN rail to  
DIN 46277  
2.5 mm<sup>2</sup>, AWG 14

##### Connection, single/ stranded wires

##### Protection

IP20

#### TEMPERATURE, HUMIDITY

##### Ambient, storage

##### Ambient, operation

##### Relative humidity

-22 ~ +85 °C  
0 ~ 50 °C  
0 ~ 95%

#### OTHER

##### Programming

##### Keypad

##### Display

With 3 keys & built-in display  
Tactile, 3 keys  
2x16 character LCD display

### PROGRAMMABLE PARAMETERS

##### Input type

##### Input Hi

##### Input Lo

##### Unit

See 'Input types'  
For linear voltage inputs  
For linear voltage inputs  
°C, °F, °K, EU, none, BAR, PSI, pH,  
Pa, %RH, rpm, %, V, mV, A, mA, W,  
M, cm, mm, G, KG, mmHg, L/H, CAL  
1, 0.1, 0.01, 0.001

##### Resolution

##### Enable/Disable output

##### Sensor break

##### Preset out

##### Digital filter

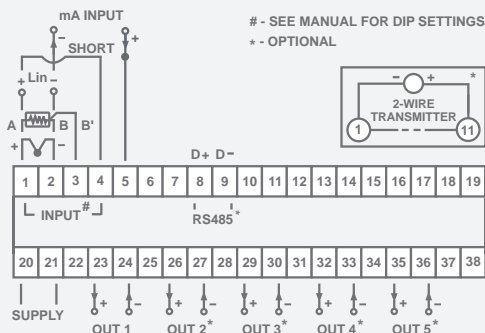
Provided for each output  
Upscale, Downscale for each input  
Sensor break output value  
Provided

## UNIVERSAL INPUT, 5 OUTPUTS, INTEGRAL LCD DISPLAY

TABLE 1

SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		DISPLAY		OUTPUT	
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE	TYPICAL ACCURACY AT 30 °C (°C / EU / % SPAN)	WORST CASE ACCURACY (°C / EU / % SPAN)	TYPICAL ACCURACY AT 30 °C (°C / EU / % SPAN)	WORST CASE ACCURACY (°C / EU / % SPAN)
Pt - 6% Rh / Pt - 30% RH (B)	400	1820	400	1820	± 3°C	± 6	See Note 1	
Chromel / Constantan (E)	-270	800	0	800	± 1°C	± 3	See Note 1	
Iron / Constantan (J)	-210	760	0	760	± 1°C	± 3	See Note 1	
Chromel / Alumel (K)	-270	1372	-50	1200	± 1°C	± 3	See Note 1	
Nicrosil / Nilil (N)	-270	1300	-50	1200	± 1°C	± 3	See Note 1	
Pt / Pt - 13% Rh (R)	0	1760	0	1760	± 2°C	± 6	See Note 1	
Pt / Pt - 10% Rh (S)	0	1760	0	1760	± 2°C	± 6	See Note 1	
Copper / Constantan (T)	-270	400	-200	400	± 1°C	± 4	See Note 1	
Pt50, Pt100, Pt-SPL (Pt200, Pt500, Pt1000) 3-wire	-200	850	-200	400	± 0.2°C	± 1.0	See Note 1	
Cu53	0	180	0	180	± 0.2°C	± 0.5	See Note 1	
Linear (0~10 mV, 0~50 mV, 0~100 mV, 0~200 mV, 0~1 V, 0~5 V, 0~10 V, 0~20 mA, 4~20 mA)	-999	9999	-999	9999	± 5 EU	± 11 EU	± 0.05%	± 0.1%
Linear (4~20 mA) with square root	0	9999	0	9999	± 5 EU	± 11 EU	± 0.05%	± 0.1%

### CONNECTION DIAGRAM



#### Note 1

For Temperature inputs, the output accuracy error corresponds to [display accuracy ±0.1% span].

#### Example

Input : Thermocouple K  
Range : 0~1000°C

Here, the **typical** display accuracy is ± 1°C.  
Hence, the output error is  $\pm 1^\circ\text{C} \times 16000 \mu\text{A} \pm 0.1\%$  of span  
1000°C  
= ±16 μA ±16 μA  
= ±32 μA

Use worst case display accuracy for worst case output error.

### ORDERING INFORMATION

2117	A	B	C	D	E	F	G
	<b>A Output1 type</b>	<b>B Output2 type</b>	<b>C Output3 type</b>	<b>D Output4 type</b>	<b>E Output5 type</b>	<b>F Communication</b>	<b>G Supply voltage</b>
	0 0/4~20 mA	0 None	0 None	0 None	0 None	0 Not Provided	0 85~265 V AC
	1 0~1 V DC	1 0/4~20 mA	1 0/4~20 mA	1 0/4~20 mA	1 0/4~20 mA	1 RS485	1 20~35 V DC
	2 0~5 V DC	2 0~1 V DC	2 0~1 V DC	2 0~1 V DC	2 0~1 V DC		
	3 0~10 V DC	3 0~5 V DC	3 0~5 V DC	3 0~5 V DC	3 0~5 V DC		
	4 Other *	4 0~10 V DC	4 0~10 V DC	4 0~10 V DC	4 0~10 V DC		
		5 Other *	5 Other *	5 Other *	5 Other *		

\* Please specify

### SALES INQUIRIES

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