



- Direct display of carbon potential
- Input : Oxygen probe
Thermocouple (K, R, S)
- Outputs : 2~5 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

INPUTS

Temperature K, R, S thermocouple
Oxygen sensor Zirconia probe
Range limits See Table 1

MONITORING

Sensor break protection User programmable for each input

ACCURACY

Display, outputs
Carbon potential ± 0.02 %C
Temperature See Table 1
Oxygen probe output ± 2 mV
Resolution
Carbon potential 0.01% C
Temperature 1 °C
Oxygen probe output 1 mV
Cold junction compensation Automatic (for thermocouples)
Temperature effect on accuracy ± 0.01% of span per °C

OUTPUTS

No. of outputs 2~5
Output types
Standard
Current 0~20 mA, 4~20 mA, 20~0 mA, 20~4 mA (load : 0~500Ω)
Voltage 0~1 V DC, 0~5 V DC, 0~10 V DC
Non - Standard Please specify
Note : For EACH output, one of the Std or Non-std outputs MUST be specified
Output assignment (each output) Carbon potential
Temperature (°C)
Oxygen probe (mV)

CALIBRATION

ZERO and SPAN through front panel keys for each input and 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, 50 hz OR 20~35 V DC

COMMUNICATION

Port RS485
Protocol Modbus RTU
Slave ID User programmable

ENCLOSURE

Material ABS plastic
Dimensions 100(W) x 75(H) x 110(D)
Mounting Snap on for 35 mm DIN rail to DIN 46277
Connection, single/stranded wires 2.5 mm², AWG 14
Protection IP20

TEMPERATURE, HUMIDITY

Ambient, storage -22 ~ +85 °C
Ambient, operation 0 ~ 50 °C
Relative humidity 0 ~ 95%

OTHER

Programming With 3 keys & built-in display
Keypad Tactile, 3 keys
Display 2x16 character LCD display, backlit

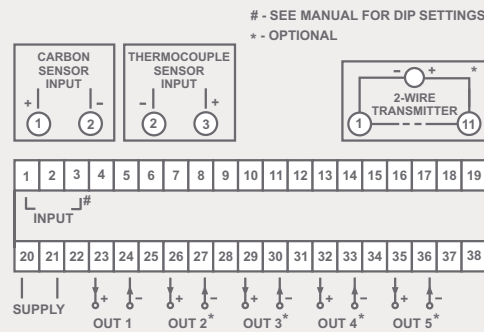
PROGRAMMABLE PARAMETERS

| | |
|-----------------------|-----------------------------------|
| Thermocouple type | K, R, S |
| Unit (temperature) | °C, °F, °K |
| Temperature Hi scale | } For output scaling |
| Temperature Lo scale | |
| CP Hi scale | |
| CP Lo scale | |
| mV Hi scale | |
| mV Lo scale | } Methane, Propane |
| Gas type | |
| Enable/Disable output | Provided for each output |
| Sensor break | Upscale, Downscale for each input |
| Preset out | Sensor break output value |
| Digital filter | Provided for CP |

TABLE 1

| SENSOR / INPUT | RANGE LIMITS (°C / mV) | | RANGE IN WHICH ACCURACY IS SPECIFIED | | TYPICAL ACCURACY AT 30 °C (°C / mV) | WORST CASE ACCURACY (°C / mV) |
|----------------------|---------------------------|------------|---|------------|---|-------------------------------------|
| | LOW SCALE | HIGH SCALE | LOW SCALE | HIGH SCALE | | |
| Chromel / Alumel (K) | -270 | 1372 | -50 | 1200 | ± 1 | ± 3 |
| Pt / Pt - 13% Rh (R) | 0 | 1760 | 0 | 1760 | ± 2 | ± 6 |
| Pt / Pt - 10% Rh (S) | 0 | 1760 | 0 | 1760 | ± 2 | ± 6 |
| Oxygen probe | 0 | 2000 mV | 1400 mV | 2090 mV | ± 1 mV | ± 2 mV |

CONNECTION DIAGRAM



ORDERING INFORMATION

| | | | | | | | |
|------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|-----------------------|
| 2141 | A | B | C | D | E | F | G |
| | A | B | C | D | E | F | G |
| | Output1 type | Output2 type | Output3 type | Output4 type | Output5 type | Communication | Supply voltage |
| | 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



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