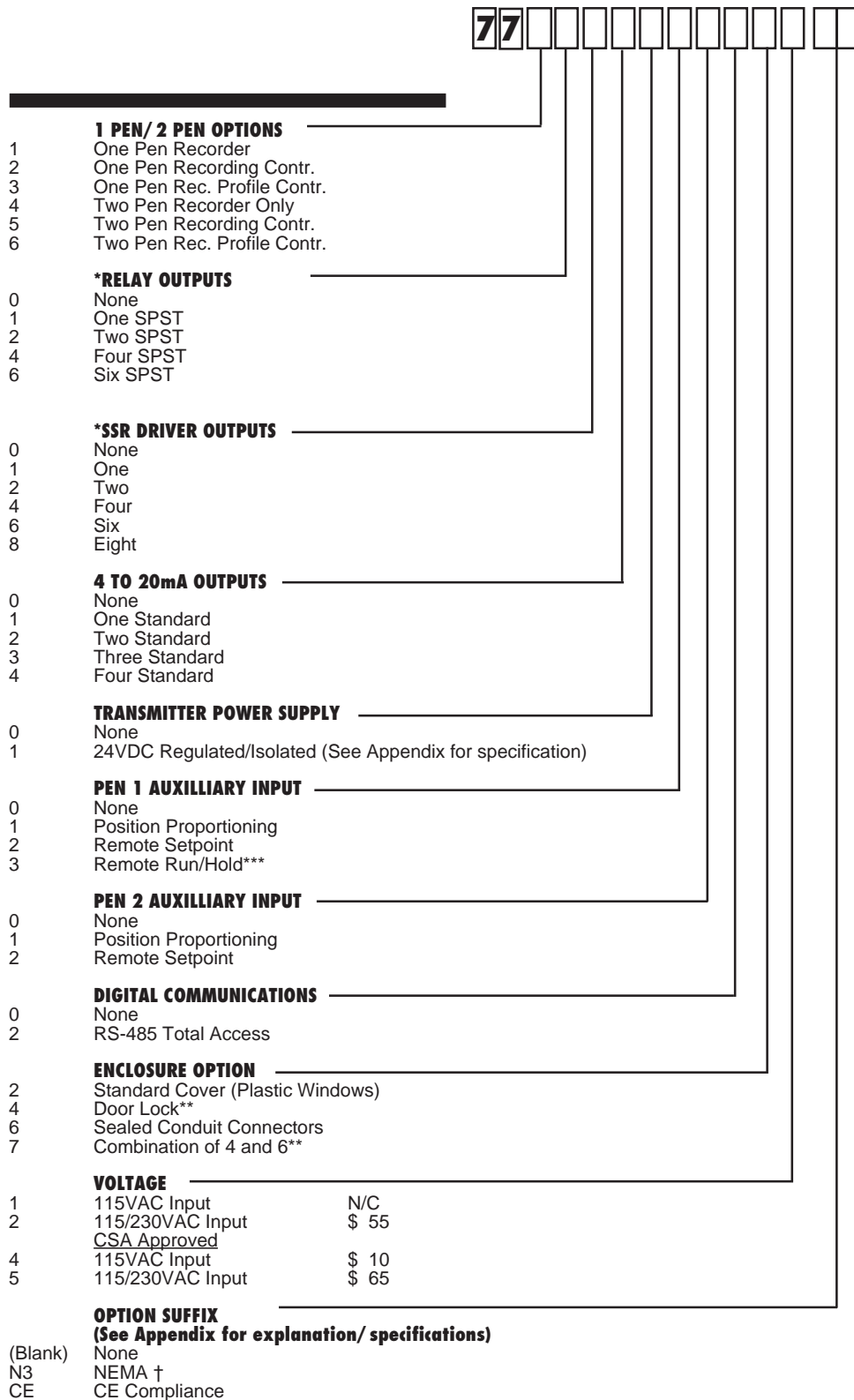


MRC 7700 SERIES

RELATIVE HUMIDITY RECORDING CONTROLLER/ PROFILER



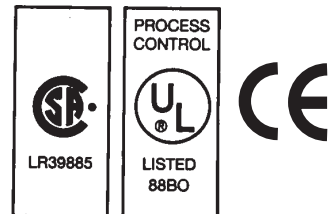
* Total quantity of SPST Relays and SSR Drivers must be less than or equal to eight. When SPDT Relays are included, the total must be less than or equal to six.

** This option comes with a structural foam cover.

*** Applies to Models 773XXXXXXXXX and 776XXXXXXXXX.

†N3 - NEMA type protection for wet environments.

Note: 4-20mA inputs are accommodated using the 1-5V input and a 250 ohm Shunt Resistor, P/N 64411701 (provided with the unit) or the 10-50mA input and a 2.5 ohm Shunt Resistor, P/N 64411702.



WARRANTY

This instrument is backed by the Partlow comprehensive 3 year warranty. A complete warranty statement is published in the back of the product instruction manual. If you have further questions about warranties, please contact the Partlow factory.

ORDERING INFORMATION

For pricing and additional ordering information, refer to Form 3265, Electronic Price Book, Page 43.



DESCRIPTION

The MRC 7700 is a microprocessor based circular chart Recording Profile Controller capable of measuring, displaying, recording, controlling, and profiling Relative Humidity and/or Temperature using Dry Bulb and Wet bulb temperatures from a variety of inputs. It uses an algorithm to automatically calculate relative humidity. Two sensor input terminals are provided on every instrument. To perform the Relative Humidity calculations, both inputs should be the same type (2 RTD, 2 J T/C, for best results a matched pair of sensors should be used). Recording, alarm settings, and other parameters are easily entered via the keypad. All user data can be protected from unauthorized changes by the Enable Mode security system. The data is protected against memory loss, as a result of AC power outage, by battery back-up. The process variable input is user configurable to directly connect to either thermocouple, RTD, VDC, or mADC inputs. Changes in input type can easily be made. Thermocouple and RTD linearization, as well as thermocouple cold junction compensation, is performed automatically. The instrument process variable inputs are isolated. The instrument can be ordered to operate on either 115VAC or 230VAC power at 50/60 Hz. The 230 VAC option includes a switch for selecting either 230VAC or 115VAC. The recorder is housed in a plastic enclosure suitable for panel or surface mounting.

SPECIFICATIONS

Process Input

Thermocouple types	J, K, T, E, N, R, S, B, and C.
RTD	100 ohm(.00385 Ohm/Ohm/C)
Volts	0 to 5VDC, 1 to 5VDC.
Milliamps	4 to 20mADC, accommodated via 10 to 50mV or 1 to 5V input with the addition of the appropriate external shunt resistor.
Sensor Fault Detection	Displays SnSr for sensor or transmitter break. Outputs go off. PV Out to 100%. Event status remains same. Fault detection is not functional for 0-5V or 0-20mA inputs.

Outputs

Relay	SPST 115VAC: 5.0A Resistive, 1/8HP, or 250VA 230VAC: 2/5A Resistive, 1/8HP or 250VA
SSR Driver	Open collector output Short circuit protected @ 100mA maximum Provides 4VDC at 20mA or 3VDC at 40mA
Current	0 to 20 or 4 to 20mADC into 650 ohms max.

Alarms

Process Alarm	Direct (High) or Reverse (Low); -999 to 9999
Deviation Alarm	Direct or Reverse -3000 to 3000 units
Deviation Band Alarm	Open within band or Closed within band, 1 to 3000 units
Alarm Hysteresis	0 to 300 units (width of hysteresis band).

Control Parameters

Proportional Band	1 to 3000 units
Manual Reset	-1500 to 1500 units
Auto (Reset)	0.0 to 100.0 repeats/minute
Rate (Derivative)	0.0 to 10.0 minutes
Cycle Time	1 to 240 seconds
Pos. Prop. Sens.	0.0 to 50.0%
On/Off Hysteresis	0 to 300 units (width of hysteresis band)
Output Position	-1000 to 1000 units
Control Action	Direct or Reverse
Automatic Transfer	User selectable to transfer from manual to automatic control when setpoint is reached.
Anti-Reset Windup	Auto reset is disabled when the process is outside the Proportional band.
Auto/Manual	Bumpless transfer
Manual Output	0 to 100%
Output Limiting	0 to 100%
Setpoint Limiting	-9999

Profile Parameters

Programmable Profiles	8 user programmable profiles
Segments	1 to 6 segments per profile
Ramp and Soak	1 ramp and soak per segment
Profile Time Base	User selectable: hrs, min, sec, tenths
Profile Loop Count	1 to 9999, 0=continuous
Profile End Control	User selectable
Assured Soak	Available
Pen Profiling config.	Pen 1 only, or Pen 1 and Pen 2
Remote Run/Hold	Available
Event Output	3 possible event outputs

Performance

Measurement Error Limit	• Type J, K, T, E, N, C T/C's and RTD -0.25% of reading plus 1 @ 25 C • Type R, S, B T/C's -0.25% of span @ 25 C • mA and VDC -0.25% of scaled span plus 1 Least Significant Digit @ 25 C
Ambient Temp. Error	0.01% of span per degree C deviation from 25 degrees C
Scan Rate	1 scan/second
Display Decimal Positions	1, 2, or 3 decimal placed (0.1 or 1 for T/C / RTD)
Noise Rejection	Normal mode 85dB min. at 60 Hz or greater Common mode, 90dB min., 115VAC maximum
Line Voltage	115/230VAC - 10% 50/60 Hz
Power Consump.	25VA max.
Operating Temp.	32 to 141 F, 0 to 55 C
Storage Temp.	-40 to 149 F, -40 to 65 C
Humidity	0 to 90% RH, noncondensing
Weight	20 pounds maximum
Relative Humidity	Based on 100 Ohm RTD (.00385 ohms/ohm/degree C) input, the Relative Humidity Accuracy is -2% RH @ 25 C and -3% RH @ 5 to 50 C range
Algorithm Accuracy	Typically better than 1%, however, actual user accuracy will be dependent upon the quality of the sensors used, the proper installation of the sensors, the input correction adjustments and the barometric pressure adjustment.

Record and Display

Chart	10 inch circular,
Chart Range	-9999 to 9999 units
Chart Drive	DC stepper motor
Chart Rotation	User configurable from 0.1 to 999.9 hours per revolution.
Pen Type	Disposable Fiber tip
Pen Color	Pen 1 - Red, Pen 2 - green.
Digital Displays	1 per pen, .56" high
Status Display	LED provided to indicate Out 1, Out 2, Alm1, Alm 2, Man, Ramp, Soak, Seg 1 thru Seg, 6, Process units

Agency Approvals

UL and CSA

Transmitter Power Supply

Provides up to 40mA of current at 24 VDC

Digital Communications

Type	RS-485 serial communication port. Half-duplex bi-directional comm.
Character Format	ASCII
Protocol	Per ANSI X3.28 subcategories 2.5 & A4
Configuration	User configurable to "Monitor" (read only) or "Normal" (read and write)
Bit Rate	User configurable to 300, 600, 1200, 2400, 4800, or 9600 bits per second.
Address	User configurable for each pen; 0 to 99

RECORDERS