



Universal Temperature Monitor/Scanner with ModBus Communications ETM-40US Series

MICROPROCESSOR-BASED TEMPERATURE MONITORING INSTRUMENT FOR UP TO 40 THERMOCOUPLE POINTS

- Designed to monitor critical engine and compressor temperatures, or virtually any other industrial process
- Universal design offers application flexibility
 - 40 monitored points
 - 10-36VDC, 100-250VAC powered
 - Selectable J or K thermocouples
 - Low, high, deviation, and differential setpoints
 - Alarm and shutdown outputs
 - AC or DC solid-state input and output switches
- Monitored temperatures can be grouped into one of six (6) groups
- ModBus RTU serial communications
- CSA certified for use in Class I, Division 2, Group C and D hazardous areas

The Altronic ETM-40US Universal Temperature Monitor/Scanner is a microprocessor-based instrument designed to monitor up to forty process temperatures. While primarily designed for use in monitoring critical temperatures on reciprocating engines and compressors, the incorporation of 10-36VDC or 100-250VAC power, the suitability for use with either J or K thermocouples, and a wide variety of input and output module options allows for the application of the ETM-40US to virtually any industrial process requiring state-of-the-art temperature protection.

Each of the forty monitored points are arranged in six separate temperature groups. This allows the user to group similar points (such as engine cylinder exhaust temperatures or turbocharger outlet temperatures) which can be measured against a set of common alarm and shutdown setpoints. Low, high, and differential setpoint monitoring is available, along with the capability of detecting and annunciating deviations from the average of a group of monitored temperatures. Please see the reverse for a review of the temperature groupings, available setpoints, and outputs associated with each group.

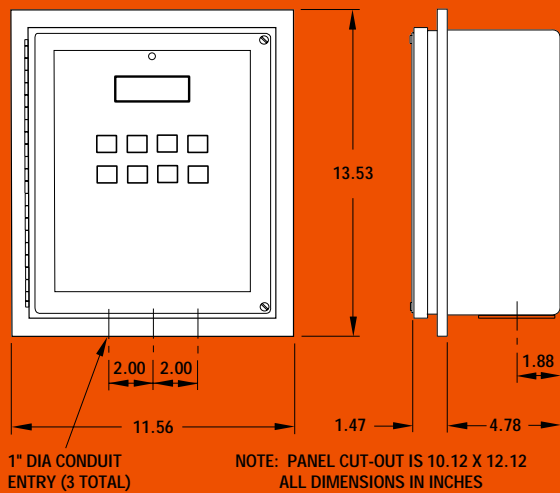
The backlit, alphanumeric LCD display offers all setup and monitored information. A front panel, sealed membrane keypad provides easy selection and adjustment of the displayed units, range, setpoints, and other configuration data. All fault information (alarm and shutdown) is made available to the user on the display in the order of occurrence. Fault information, the monitored temperature values, and the status of all channels can also be communicated to a PC, PLC, or other supervisory control via RS-485 ModBus RTU protocol. System configuration and setup is simple and accomplished by accessing the front keypad of the device.

The ETM-40US is housed in a gasketed, steel NEMA 4 enclosure and assembled using stainless steel hardware. It is designed to physically interchange with its predecessors, the ETS-24 and ETS-40 temperature scanners.



CERTIFIED
Class I, Division 2,
Groups C and D

DIMENSIONS



GROUPS and CONFIGURATION

GROUP	CHANNEL NUMBERS	COMMON SETPOINTS	INDIVIDUAL SETPOINTS	OUTPUTS
1	1-16	L1, H1, D1 L2, H2, D2		1 2
2	17,18	L1, H1, D1 L2, H2, D2		1 2
3	19,20	L1, H1, D1 L2, H2, D2		1 2
4*	21-29	L1, H1, D1 L2, H2, D2	L1, H1 L2, H2	1 2
5*	30-36	L1, H1, D1 L2, H2, D2	L1, H1 L2, H2	1 2
6	37-40		L1, H1 L2, H2	3 4

NOTE: GROUPS 4 AND 5 MAY BE CONFIGURED FOR COMMON OR INDIVIDUAL SETPOINTS. COMMON SETPOINTS INCLUDE DEVIATION FROM AVERAGE SETPOINTS.

TYPICAL APPLICATION:

GROUP 1 (16) CHANNELS FOR CYLINDER EXHAUST TEMPERATURES

GROUP 2 (2) CHANNELS FOR TURBO CHARGER TEMPERATURES

GROUP 3 (2) CHANNELS FOR CATALYTIC CONVERTER TEMPERATURES

GROUP 4 (9) CHANNELS FOR ENGINE OR COMPRESSOR MAIN OR ROD BEARINGS

GROUP 5 (7) CHANNELS FOR MISC. ENGINE OR COMPRESSOR TEMPERATURES

GROUP 6 (4) CHANNELS FOR ENGINE AND COMPRESSOR OIL/COOLANT TEMPERATURES

OUTPUT SWITCH CONFIGURATION:

OUTPUT 1 ALARM
OUTPUT 2 SHUTDOWN
OUTPUT 3 ALARM
OUTPUT 4 SHUTDOWN

SPECIFICATIONS

MONITORED TEMPERATURE POINTS	40
POWER REQUIREMENT	10–36 VDC, 4 WATTS MAX. 100–250 VAC, 10 WATTS MAX.
THERMOCOUPLE TYPE	TYPE J OR K (USER SELECTABLE)
HAZARDOUS AREA CLASSIFICATION	CLASS I, DIV. 2, GROUPS C AND D
INSTRUMENT DISPLAY	4x20 BACKLIT, ALPHANUMERIC
INSTRUMENT RANGE	–76°F. to 1472°F. / –60°C. to 800°C.
INSTRUMENT ACCURACY	±1% OF READING, ±1 UNIT
DISPLAY UPDATE RATE	1/SEC.
INPUT MODULES	1, SOLID STATE (N.O./N.C.) (SEE AVAILABLE RANGES BELOW)
OUTPUT MODULES	4, SOLID STATE (N.O./N.C.) (SEE AVAILABLE RANGES BELOW)
COMMUNICATIONS	RS-485—MODBUS RTU
AMBIENT TEMPERATURE RANGE	–40°F. to +175°F. / –40°C. to 80°C.
COLD TEMPERATURE COMPENSATION	AUTOMATIC

TO ORDER

UNIVERSAL TEMPERATURE MONITOR/SCANNER 40 POINTS, TYPE J OR K THERMOCOUPLE

UNIVERSAL MONITOR/SCANNER ETM-40US

INPUT RELAY MODULES

10-32 Vdc 691057
90-140 Vac 691064

OUTPUT RELAY MODULES

5-48 Vdc, 5.0 A. 691125
5-60 Vdc, 2.0 A. 691056
5-200 Vdc, 0.67 A. 691066
24-280 Vac, 2.0 A. 691065



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