MAGTROL

AN 1500 P
Data Sheet

AN 1500 P Signal Conditioner / Process Display

FEATURES

- Input Range: ±10 VDC or ±20 mA DC
- Transducer Power Supply: 24 V, ±5 V or 10 V / 30 mA
- 4 Red Digits (9999/-999), 14 mm Height, 96 × 48 mm Format
- 12 Acquisitions per Second
- TARE, PEAK and VALLEY Functions
- IP 65 Front Panel (indoor use)
- 1 to 3 Flexible Configurations with Interchangeable Options:
  - 2 thresholds (relays)
  - 4–20 mA analog output
  - RS-232C or RS-485 serial output
- Quick Wiring Using WAGO Connectors

DESCRIPTION

The AN 1500 P Signal Conditioner is designed to process signals coming from force and pressure transducers with normalized output (current or voltage). This conditioner processes every ±10 VDC or 20 mA DC signal generated by any type of converter or transmitter.

The conditioner can be equipped with two optional boards and is fitted with numerous functions making its adaptation to the environment very easy. Additionally, two programming methods allow scaling the conditioner to operate in various engineering units. Programming is carried out by means of keyboard or input signal.

The basic instrument consists of a PCB assembly including the main board, the display and the power supply filter, to which the A/D conversion circuit and the input option board are added.

The signal conditioner's basic functions include the display of the input variable, as well as the reading of the stored maximum and minimum values (PEAK/VALLEY) and the TARE function with reset to zero.

The AN 1500 P is used with Magtrol Load Measuring Pins to measure load and force and provide overload protection. Magtrol also offers a wide range of Load-Force-Weight Transducers in various executions and accuracy classes and our Load Monitoring Units (LMUs) constitute an ideal safe measurement system which continuously checks for short-circuits and interrupted signal lines.

OPTIONS

The following options can also be added to the AN 1500 P Signal Conditioner:

Control

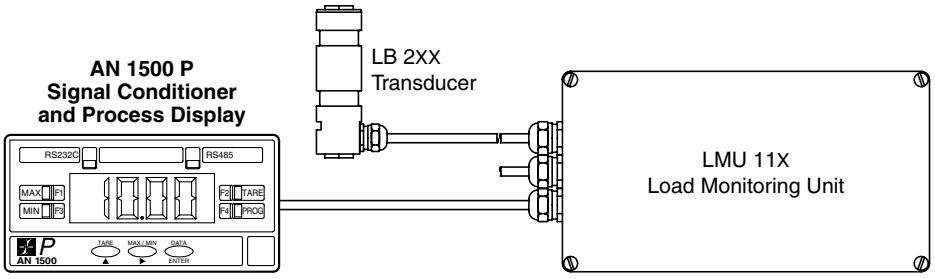
MAN	4–20 mA analog output
2RE	2 SPDT relay outputs, 8 A

Communication

RS2	RS-232C serial output
RS4	RS-485 serial output

All outputs are opto-insulated with regard to the input signal.

SYSTEM CONFIGURATION



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RATINGS

MEASUREMENT CHARACTERISTICS	
Transducer Power Supply	24 V, ±5 V or 10 V / 30 mA
Signal Processing • Type • Conversion Speed • Conversion Definition	 differential asymmetrical signal 12 conversions/second ± 11 bits
Voltage Input • Input Range • Resolution • Input Impedance	 ±10 VDC 5 mV 1 MΩ
Current Input • Input Range • Resolution • Input Impedance	 ±20 mA DC 10 µA 9 Ω
Measurement Display • Type • Display Definition • Digits / Height / Color • Display Refresh Rate • Decimal Point	 7-segment alphanumeric display 9999/-999 4 digits / 14 mm (≈0.55 in.) / red 83 ms programmable
Accuracy • Maximum Error • Temperature Coefficient • Warm-Up Time	 ± (0.1% of reading ±3 count) 100 ppm/°C 5 min
Overrange Indication	OVE
OPERATING INDICATIONS (LEDs)	
Operation Monitoring	5 LEDs
RUN / PRG Mode	1 LED
Thresholds 1 and 2	2 LEDs
KEYBOARD	
Operating Keys	TARE, MAX/MIN, DATA
Programming Keys	▲ , ► , ENTER
PROGRAMMING	
5 Program Menus	1) Input configuration 2) Display configuration 3) Setpoint input 4) Analog output configuration 5) Serial RS-output configuration
POWER SUPPLY	
AC	115/230 V 50/60 Hz ±10% 24/48 VAC 50/60 Hz ±10%
DC	12–24 VDC isolated
ENVIRONMENTAL AND MECHANICAL CHARACTERISTICS	
Operating Temperature	-10°C to +60°C
Storage Temperature	-25°C to +80°C
Relative Humidity, Non-Condensing	< 95% at 40°C
Weight	250 g (0.55 lb)
Housing Material	UL 94V-0 polycarbonate

CONTROL OPTIONS

Analog Output Board (MAN)

This board is used to transmit displayed values (full or partial measuring range) by means of an electrically isolated analog signal (4–20 mA).

Characteristics	4–20 mA Output
Resolution	12 bits / 0.2% FSD ±1 bit
Response Time	120 ms
Temperature Drift	2 µA/°C
Maximum Load	500 Ω
Weight	≈20 g / ≈0.71 oz

Relay Output Board (2RE)

Characteristics	2 Threshold Values (2RE)
Number of Thresholds	2
Switching Capacity	8 A / 250 VAC
Maximum Power	2000 VA / 192 W
Function	SPDT (Single Pole Dual Toggle)
Response Time	10 ms
Programming	9999/-999
Coupling	Independent
Activation Mode	< or >
Programmable Delay	0 to 99 seconds
Weight	≈40 g / ≈1.41 oz

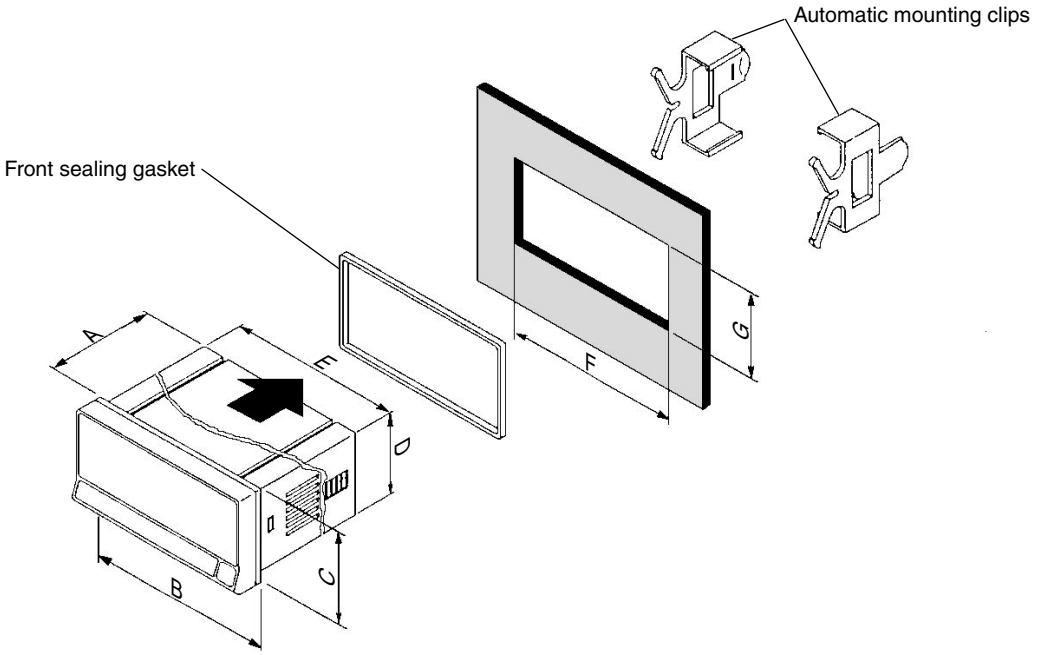
COMMUNICATION OPTIONS

Serial Output Boards (RS2 & RS4)

The RS2 and RS4 output boards allow serial communication with a personal computer or any other unit using a serial RS-232C or RS-485 transmission protocol, respectively.

Characteristics	RS-232C Board (RS2)	RS-485 Board (RS4)
Baud Rate	1200, 2400, 4800, 9600, 19200	
Protocol	Standard, ISO 1745 or MODBUS	
Address	00 to 99	
Reading Functions of Displayed and Memorized Values	Minimum and maximum values, Tare, Measure, Thresholds 1 and 2	
Changing of Threshold Values	Threshold 1 and 2 Digital indication of the threshold value	
Remote Controls (Reset)	Minimum and maximum values, Tare, Clear Tare	
Weight	≈40 g / ≈1.41 oz	

DIMENSIONS



NOTE: Original dimensions are in Metric units. Dimensions converted to English units have been rounded up to 2 decimal places.

	mm	in
A	60	2.36
B	96	3.78
C	48	1.89
D	42	1.65
E	90	3.54
F	92	3.62
G	45	1.77

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ORDERING INFORMATION

Model Number: **AN 1500P / X / X / RSX / XRE / X**

Power Supply	
230 VAC / 50–60 Hz	**230 VAC**
115 VAC / 50–60 Hz	**115 VAC**
12–24 VDC	**12-24 VDC**
48–24 VAC	**48-24 VAC**

Analog Output	
none	**0**
4–20 mA	**MAN**

Serial Output	
none	**RS0**
RS-232C	**RS2**
RS-485	**RS4**

Relay Output	
none	**0RE**
2 relay outputs	**2RE**

Calibration	
none	**0**
with calibration	**C**

Example: An AN 1500 P with 230 VAC/50-60 Hz power supply, analog output, RS-232C serial output, 2 relay outputs and calibration would be ordered as part number AN 1500P / 230 VAC / MAN / RS2 / 2RE / C .

Due to the continual development of our products, we reserve the right to modify specifications without forewarning.