3400 SERIES

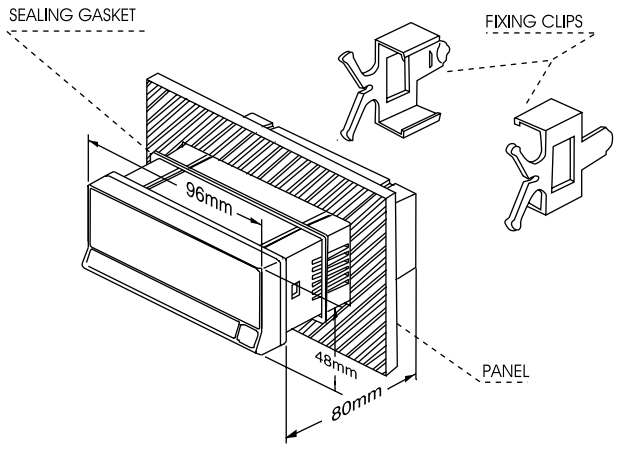
Process Meter and
Process Meter with Totalizer



Largest LED Display Available with .8'' high characters in a 1/8 DIN Panel Meter Package. Available in seven (7) different input models. Also with space savings compared to other panel meters with 2.4'' behind the panel.

DIMENSIONS AND MOUNTING

INCHES
MILLIMETERS



GENERAL DESCRIPTION

The 3400 series digital panel meter displays are considerably larger, brighter and therefore more visible than displays for conventional instruments with the same DIN size. The 3400 has a standard warranty period of 3 years. The meter is user–friendly in programming with two options in scaling the meter into engineering units. The first method is a simple data entry of two points and the corresponding display values. The second method is accomplished by simply applying a signal to the input and entering the display value equal to the input signal. The Process, Thermocouple, and RTD models offer an optional output of 2 SPDT relays rated for 8A @ 250VAC. The display on the 3400 updates at a rate of 4/sec.

STANDARD FEATURES

- **High Visibility 3½ DIGIT LED Display**
- **Clamp Wago Connectors**
- **Front panel programmable decimal points**
- **Two scaling methods (by front keyboard or actual load calibration)**
- **Optional two relay output (3420, 3430 & 3460 only)**
- **Available in 7 different input models: VDC, ADC, VAC, AAC, PROCESS, RTD, THERMOCOUPLE**
- **Short Depth behind the panel (2.4")**
- **Available in models powered by 115/230VAC, 12VDC, and 24VDC**

RATINGS

The front of the meter is protected against a wash down, rated for NEMA 4(IP65). CE and cURus certified.

COMPACT DESIGN

The meter fits a 92mm × 44mm standard 1/8-DIN cutout. The unit only requires a 2.9" clearance behind the panel cutout which includes wiring.

POWER OPTIONS

The meters are available in models powered by 115VAC/230VAC, 12VDC, or 24VDC.

SCREW TERMINAL CONNECTORS

These meters come complete with plug in clamp wago connectors that accept wire up to 14 ga. for all connections.

3410 VOLTAGE DC

The 3410 model are instruments that accept DC voltage signals up to 600V. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

Input	Resolution	Input impedance
600V	1V	3Mohm
200V	100mV	300Kohm
20V	10mV	30Mohm

ACCURACY

Max error ± (0.1% of the reading +3 count)

3415 DC AMPS

The 3415 model accepts DC Amperage signals up to 5A. The 3415 can also be configured for an external DC shunt of 60mV or 100mV. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

Input	Resolution	Input impedance
5A	2.5mA	0.012ohm
1A	0.5mA	0.06ohm
Shunt 100mV	50µA	45Kohm
Shunt 60mV	30µA	100Mohm

ACCURACY

Max error ± (0.1% of the reading +3 count)

3420 PROCESS MODEL

The 3420 model is software selectable ±10VDC or ±20mA process input signals. The unit has 24VDC excitation @ 25mA available to supply the transducers. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

Input	Voltage	Current
Max input	±10VDC	±20mA DC
Resolution	5mV	10µA
Input impedance	1Mohm	9ohm
Excitation	24VDC±5V@25mA(pow.230V)	

ACCURACY

Max error ±(0.1% of the reading +3 count)

3430 THERMOCOUPLE MODEL

The 3430 is fully programmable to display temperature in degree Centigrade or Fahrenheit scale, and selectable inputs of J, K, or T thermocouple inputs. Selection of resolution (degrees or tenths of a degree). Also an offset of (-99 to +99) counts of display can be programmed into this unit. Optional 2 SPDT relays are available for an output control. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

TC "J" 0.1°C/°F . . . . . .-50.0 to 200.0°C / -58.0 to 392.0°F
TC "J" 1°C/°F . . . . . .-50 to 850°C / -58 to 1562°F
TC "K" 0.1°C/°F . . . . . .-50.0 to 200.0°C / -58.0 to 392.0°F
TC "K" 1°C/°F . . . . . .-50 to 1250°C / -58 to 392°F
TC "T" 0.1°C/°F . . . . . .-100.0 to 100.0°C / -148.0 to 212.0°F
TC "T" 1°C/°F . . . . . .-200 to 400°C / -328 to 752°F

ACCURACY AT 23° ±5°C

TC "J" 0.1°C/°F . . . . . .±(0.4%R+0.6°C)/ ±(0.4%R+1°F)
TC "J" 1°C/°F . . . . . .±(0.4%R+1°C)/ ±(0.4%R+2°F)
TC "K" 0.1°C/°F . . . . . .±(0.4%R+0.6°C)/ ±(0.4%R+1°F)
TC "K" 1°C/°F . . . . . .±(0.4%R+1°C)/ ±(0.4%R+2°F)
TC "T" 0.1°C/°F . . . . . .±(0.4%R+0.6°C)/ ±(0.4%R+1°F)
TC "T" 1°C/°F . . . . . .±(0.4%R+1°C)/ ±(0.4%R+2°F)

3460 RTD MODEL

The 3460 is designed for RTD temperature measurement. The unit accepts a three wire PT100 RTD probe. Software configuration allows selection of (Celsius or Fahrenheit), and resolution (degrees or tenths of a degree). This unit has an optional 2 SPDT relay for a control output.

Input	Range (res. 0.1°)	Range (res. 1°)
Pt100	-100.0 to +200.0°C	-200 to +800°C
	-148.0 to +392.0°F	-328 to +1472°F

INPUT SIGNAL

Pt100 excitation current	< 1 mA
Max. lead resistance	40 with wire (balanced)
Linearization DIN 43760	
Alpha coefficient	a= 0.0385

ACCURACY AT 23° ±5° C

Max error:
Pt100 (res. 0.1 °C) . . . . . .± (0.1% of the reading +0.3 °C)
Pt100 (res. 1 °C) . . . . . .± (0.1% of the reading +1 °C)
Pt100 (res. 0.1 °F) . . . . . .± (0.1% of the reading +0.5 °F)
Pt100 (res. .1 °F) . . . . . .± (0.1% of the reading +1.5 °F)

3470 AC AVG VOLTAGE

The 3470 includes standard AC voltage input ranges up to 600VAC. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

Input	Resolution	Input impedance
600V	1V	3Mohm
200V	100mV	300Kohm
20V	10mV	30Mohm

ACCURACY

Max error ± (0.1% of the reading +3 count)

3475 AC AMPS

The 3475 accepts AC currents up to 5A, or additional connections are available for 60mV or 100mV external shunts. Easily scaled via the front keypad to display engineering units by no calculation or load calibration.

INPUT SIGNAL

Input	**Resolution**	**Input impedance**
5A	2.5mA	0.012W
1A	0.5mA	0.06W
Shunt 100mV	50µA	45KW
Shunt 60mV	30µA	100MW

ACCURACY (40HZ-1KHZ)

Max error ± (0.1% of the reading +3 count)

ORDERING INFORMATION

34XX XXX - X

- **C** Optional 2 SPDT relay output available only with (D3420, D3430, D3460)
- **BLANK** Unit powered by 115VAV/230VAC
- **V12** Unit powered by 12VDC (10.5VDC to 16VDC)
- **V24** Unit powered by 24VDC (21VDC to 32VDC)
- **10** DC Voltage input model
- **15** DC Amperage input model
- **20** Process input model
- **30** Thermocouple type (J, K, T) input model
- **60** 3 wire PT100 RTD input model
- **70** AC Voltage input model
- **75** AC Amperage input model

Example:

3420-C (Process meter, 115/230 VAC powered, with relay outputs.)
3420V12 (Process meter, 12 VDC powered)

FRONT PANEL FUNCTIONS

MODE		RUN	PROG
Label	1	Space for Engineering unit label	
LED 2	2	Indicates setpoint 2 is active	Indicates programming of the setpoint2
■ Key	3	Shows programming data. Gives access to PROG mode.	Validates programmed data. Advances one program step. Exit. Shifts to the right
> Key	4	-	Increments the active
^ Key	5	-	Digit value
LED 1	6	Indicates setpoint 1 is active	Indicates programming of the setpoint1 Shows programming of
Display	7	Displays the variable being measured	the setpoint1

SPECIFICATIONS

A/D CONVERSION

RESOLUTION:	16 bits
READ RATE:	25/ s
TEMPERATURE COEFFICIENT:	±100ppm/°C
WARM-UP TIME:	5 minutes
STEP RESPONSE TIME:	250ms

DISPLAY

TYPE:	20.23mm / .80" Red LED
RANGE:	-1999/ 2000
DECIMAL POINT:	programmable
READING RATE:	4/S
DISPLAY OVERRANGE INDICATION:	OvE
INPUT OVERRANGE INDICATION:	OvE

ENVIRONMENTAL

OPERATING TEMP.:	+10°C to +60°C
STORAGE TEMP.:	-25°C to +85°C
RELATIVE HUMIDITY:	<95% at 40°C
MAX. ALTITUDE:	2000 m

MECHANICAL

DIMENSIONS:	1/8 DIN case, depth 2.4"
WEIGHT:	250g / 8.8oz.
CASE MATERIAL:	UL 94 V-0 polycarbonate