Crompton Instruments
Meter Relays 262-30 Series Digital Meter Relays

TE connectivity ENERGY

262-30 Series Digital Meter Relays

The 262-30 series of digital meters offer a highly accurate and stable measurement solution. Three models are available: 262-300 is for process control inputs, 262-30T for temperature inputs and 262-30A for true RMS A.C. voltage and current.

Description

An internal switched mode power supply caters for a wide range of A.C. and D.C. auxiliary voltages. The front panel is sealed to IP65. Readings are displayed on high visibility red LEDs that provide daylight readability. The display can be set to show a fixed number of decimal places and to auto scale to show the maximum resolution. A simple 3 button user interface allows full configuration via the front panel, which can also be password protected to prevent tampering. The meter can be used as a stand alone indicator, or upgraded using up to two plug-in modules. The optional modules add functionality, such as relay setpoints, analogue output or Modbus Communications. The modules are easily installed, without the need for dismantling or re-calibration.

Features

- Up to 2 plug-in option modules
- 4 digit high intensity LED display
- Simple 3 button user interface
- 96x48mm DIN bezel
- IP65 sealing
- Wide selection of caption labels
- Peak (Maximum) hold feature
- Valley (Minimum) hold feature
- UL approved file no: E75911SP

Applications

- Voltage monitoring and control
- Current monitoring
- Overload alarm
- Battery monitoring/charging
- Temperature indication
- Temperature control
- Load shedding
- Power factor correction
- Frequency monitoring
- Level control

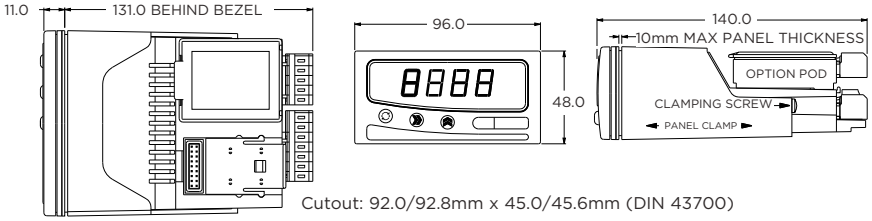
True RMS

True RMS example: This sinewave comprises of a fundamental plus 30% of the 3rd harmonic. The 262-30A accurately measures this waveform, however, an average sensing meter could have a typical 12% error. A peak sensing meter could be up to 25% inaccurate.

Product Codes

Process Control Version	262-300
Temperature Control Version	262-30T
A.C. Voltage and Current Control	262-30A
Dual Relay Output Module	262-RLY
Analogue Output Module	262-ALG
ModBus Communication Module	262-MOD

Dimensions



Cutout: 92.0/92.8mm x 45.0/45.6mm (DIN 43700)

262-30 General Specifications

Display range:	-999 to 9999
Display type:	4 digit 14.2mm red LED
Update time:	250 ms maximum
Warm-up time:	2 minutes to full accuracy
Power supply:	90 to 253V A.C. & D.C.
Optional:	20 to 35V D.C./24V A.C.
Power consumption:	6 VA max
Environmental	
Operating range:	-30 to +60°C
Storage range:	-50 to +85°C
Humidity range:	10 to 90% RH (non condensing)

Mechanical details		
Material:		ABS/PC
Flammability:		UL 94V0
Weight:		230 gms
Bezel size:		96x48mm
Panel cutout:		92x45mm
Sealing:		IP65 seal to panel
Approvals		
EMC	Emissions	BS EN50081-1
	Susceptibility	BS EN50082-2
SAFETY	BS EN61010-1	
UL	UL3121-1	

262-300 Process Control Inputs

Voltage ranges:	0-1V D.C.
	1-5V D.C.
	0-10V D.C.
Input impedance:	1 MΩ
Accuracy:	0.05% of full scale
Thermal drift:	Zero: 0.1µV/°C
Span:	100 ppm/°C

Current ranges:	0-10 mA D.C.
	0-20 mA D.C.
	4-20 mA D.C.
Input impedance:	47Ω
Accuracy:	0.05% of full scale
Thermal drift:	100 ppm/°C
Excitation output:	24V D.C. ±5% @ 50 mA max

262-30A True RMS A.C. Voltage and Current Meter

The 262-30A accurately measures and displays true RMS A.C. Voltage or current. System voltages up to 550V can be measured directly, and voltage transformers can be used for higher levels. The 6 Amp current input range can be used direct connected for small loads, or used with 1A or 5A current transformers for larger loads. Transformer ratios can be entered to ensure the correct meter scaling. The meter also records minimums and maximums for the measured parameter. D.C. Voltage and current can be measured.

With the growing popularity of electronic switch mode power supplied (including UPS) and variable speed motor drives, the accurate measurement of current and Voltage in industrial environments has become increasingly important.

These electronic loads have non linear characteristics, which means they do not draw a sinusoidal current. Current waveforms are at best distorted sinewaves, but generally have much more complex shapes. Voltage waveforms are generally sinusoidal with some distortion, except for older UPS loads, where square waves are not uncommon.

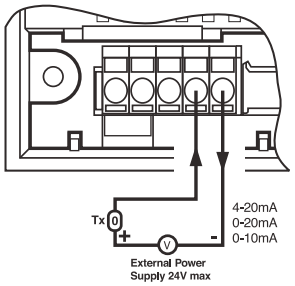
Low cost meters are generally "RMS calibrated" and are only accurate when a pure sinewave is measured. However, pure sinewaves are extremely rare in the industrial environment and when a non-sinusoidal wave is presented to such a meter, inaccurate readings will be displayed due to the distorted waveform. True RMS measurements always ensure accurate readings regardless of the waveshape.

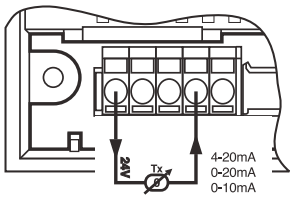
Input ranges A.C:	0 - 550V
	0 - 60V
	0 - 6 Amps
Accuracy:	0.1% of reading ±0.1% of range
Input ranges D.C:	-550 - 0 - 550V
	-60 - 0 - 60V
	-6 - 0 - 6 Amps
Accuracy:	0.1% of reading ±0.1% of range
Input impedance (Voltage):	1MΩ
Input impedance (Current):	0.02Ω
Thermal drift:	0.02%/°C
Isolation input/output:	3.5 kVrms

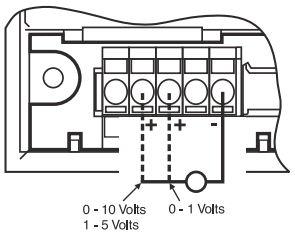
262-30T Temperature Inputs

RTD input range:		
	(PT100)	-200 to +850°C
		(18 to 390Ω)
Measurement accuracy:		0.1°C ±0.05% of reading
Thermal drift:	Zero:	0.008°C/°C
	Span:	100 ppm/°C
Excitation current:		300µA to 550µA
Lead resistance effect:		0.002°C/Ω
Max lead resistance:		50Ω/leg
Linearisation standards:		BS EN 60751 (IEC-751) BS 1904 (DIN43760)
Thermocouple input ranges:		
	Type K	-200 to 1370°C
	Type J	-200 to 1200°C
	Type T	-210 to 400°C
	Type R	-10 to 1760°C
	Type S	-10 to 1760°C
	Type E	-200 to 1000°C
	Type F(L)	-100 to 600°C
	Type N	-180 to 1300°C
Measurement accuracy:		±0.04% of full scale and ±0.04% of reading or 0.5°C (whichever is greater)
Thermal drift:		Zero: 0.1µV/°C
Span:		100 ppm/°C
Cold junction range:		-30 to +60°C
Cold junction error:		±0.5°C
Cold junction tracking:		0.05°C/°C
Linearisation standard:		BS EN 60584-1 (IEC 584-1)

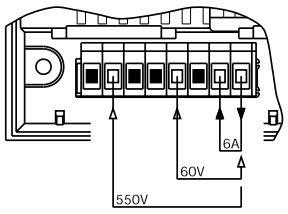
262-300 Connections



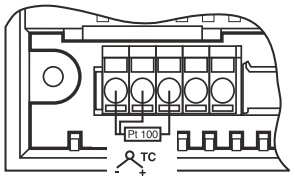




262-30A Connections



262-30T Connections



262-30 Series Plug-In Modules

The functionality of the 262-30 series of meter relays can be enhanced with up to two plug-in modules. The modules offer relay setpoints, analogue output or ModBus communications, which are easily installed, without the need for dismantling or re-calibration.

262-RLY Dual Relay Output Module

Two independent setpoint relays are contained in this plug-in module. Connection is via a 5-way removable tension clamp plug. Since the 262-30 series can accept two option modules, if two relay modules are fitted, four programmable setpoints are available. All alarms can be inhibited for a time period after power-up.

Configurable Parameters (each relay)

Using the three front panel buttons, the following parameters can be set and adjusted:

- Setpoint
- Differential (hysteresis)
- Latching on/off
- Invert (energize/de-energize on trip)
- Alarm delay 0/2/5/10/20/60/120/240 seconds

Electrical Specifications (each relay)

Contact configuration:	Single Pole Change Over (SPCO) **Important Note:** a common connection is shared for both relays
Contact ratings:	A.C. 5A 250V 1750 VA maximum D.C. 5A 30V 210W maximum (125V max)
Rating for UL:	2 Amps
Contact life:	> 100,000 operations at rated load
Alarm indication:	Red LED indicators 2.5mm high numeric

262-ALG Isolated Analogue Output

This plug-in module can source or sink up to 23 mA. The output signal is fully scaleable, and can be used as a signal isolator or signal level converter on the 262-300, or as a 'temperature transducer' on the 262-30T. Connection is via a 5-way removable tension clamp plug. Please note that the 262-30 series will only support one 262-ALG option module.

Configurable Parameters (each relay)

Using the three front panel buttons, the following parameters can be set and adjusted:

- Display Reading For Low Output
- Display Reading For High Output

Output ranges:	0-10 mA 0-20 mA 4-20 mA
Minimum output current:	0 mA
Maximum output current:	23 mA
Accuracy:	0.07% of full scale
Stability:	1µA/°C
Output ripple:	Less than 3µA
Maximum output load:	1 KΩ (when soucing)
Maximum ext. voltage:	30V (when sinking)
Voltage effect:	0.2 µA/V
Isolation level:	500 Volts A.C.

262-MOD Modbus Communication Module

This plug-in module enables connection to a RS485 network, which is ideal for use with PLC systems or industrial PC based systems. The displayed measurement is available, and the relay setpoint conditions can be monitored. Additionally, all internal parameters can be read or modified, so that product configuration, scaling and setpoint settings can all be remotely set up or changed. Connection is via a 5-way removable tension clamp plug. Please note that the 262-30 series will only support one 262-MOD option module.

Electrical Specifications

Physical layer:	RS485 4 wire RS485 2 wire half duplex
Baud rate: (selectable)	9,600 19,200
Protocol:	Modbus RTU format
Isolation level:	500 Volts A.C.
Maximum fan out:	32 units

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