

## **INTEGRA 1222**

### DIGITAL METERING SYSTEM

#### **KEY FEATURES**

- DIN 96 enclosure
- Backlit LCD screen
- Voltage IN-OUT connections
- CT current measurement 5A/1A
- Plug and socket connections
- Programmable VT, CT ratios
- Modbus<sup>™</sup> RTU
- Individual harmonics to 63rd
- Non-volatile memory 1MB

TE Connectivity's (TE) Crompton Instruments Integra 1222 is a Digital Metering System (DMS) enabling cost effective solution for the measurement and display of all electrical parameters including Total Harmonic Distortion (THD) and individual, up to the 63<sup>rd</sup> harmonic.

High definition screen features programmable backlight for high contrast visibility in low light and direct sunlight applications. The light can be programmed to automatically dim after set period of time for energy saving.

New "petal" array icons shows the percentage of full scale power of the measured system and the instantaneous PF measurement gives clear PF indication. Total power consumption is displayed on the screen at all times.

Integra 1222 DMS and the 3-in-1 current transformers feature Q2C wiring solution for simple yet fast installation utilising plug and socket connections and pre-cut wiring looms, which allow to reduce assembly time and connection errors. IN-OUT voltage connections reduce wiring and installation time.

Modbus™ RTU (RS485) available on all models. Two pulsed outputs available on self powered only.

Customers can count on consistent, high quality products, driven by TE's proven innovation and backed by our extraordinary customer support.

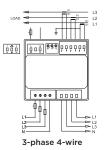


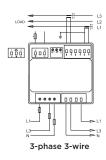
#### **INTEGRA 1222**

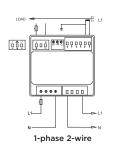


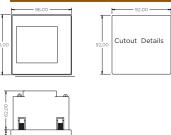












PRODUCT CODES		
Part number	Description	
INT-1222-S-010	T-1222-S-010 INTEGRA 1222 multifunction panel meter LCD Display Input 480 V L-L 2 pulsed outputs, Modbus RS485 Self powered	
INT-1222-M-010	INT-1222-M-010 INTEGRA 1222 multifunction panel meter LCD Display Input 480 V L-L Modbus RS485 Auxiliary powered	

Supply burden < 5 VA  Accuracy  Voltage (V) +/- 0.5% of range maximum  Frequency (Hz) +/- 0.2% of mid-frequency  Power factor (PF) +/- 1% of unity (0.01)  Active power (W) +/- 0.5% of reading  Reactive power (VAr) +/- 0.5% of reading  Apparent power (VA) +/- 0.5% of reading  Active energy (kWh) +/- 0.5% of reading to IEC 62053-21  Reactive energy (kVArh) +/- 0.5% of reading to IEC 62053-24  THD 2% to 63rd harmonic  Measured Range	INTEGRALIZE MARIAMENT	Tpaner meter Leb bisplay input 400 V E E Floabe					
Nominal input voltage    577 - 276 V AC L-N (100-480 V L-L) 576 V L-L MAX	SPECIFICATION						
Max. continuous input overload voltage  Max. short duration input voltage  Nominal input voltage burden  Nominal input voltage burden  Nominal input current  1A AC or 5A AC  Nom. Input current burden  Max. short duration input overload current  120% of nominal  Max. continuous input overload current  120% of nominal  Max. short duration input current (300 msec)  Deprating range  S77-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase  Supply burden  Supply burden  SVA  Accuracy  Voltage (V)  4/- 0.5% of range maximum  Frequency (H2)  Power factor (PF)  Active power (W)  Apparent power (VA)  Active energy (kWh)  Active energy (kWh)  Reactive energy (kWArh)  THD  2% to 63rd harmonic  Measured Range  Voltage (V)  S - 120% of nominal (Min 100 V - self powered)  Frequency (H2)  Power (W, VAr, VA)  Energy  8 digit, upto 999999.9 MWh  Power factor  4 quadrant	Input						
Max. short duration input voltage  Nominal input voltage burden  \( \text{ 0.2 VA per phase} \)  Nominal input current  \( 1A \text{ AC or 5A AC} \)  Nom. Input current burden  \( \text{ 0.1 VA} \)  Max. continuous input overload current  \( \text{ 120% of nominal} \)  Max. short duration input current (300 msec)  \( \text{ 20 x nominal current for 1 second} \)  Auxiliary Powered  Operating range  \( \text{ 57.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase} \)  Supply burden  \( \text{ 4.5 VA} \)  Accuracy  Voltage (V)  \( \text{ +/- 0.5% of range maximum} \)  Frequency (Hz)  Power factor (PF)  \( \text{ 4.7 No.5% of reading} \)  Active power (W)  Reactive power (VAr)  \( \text{ 4.7 0.5% of reading} \)  Active power (VAr)  Active energy (kWh)  \( \text{ +/- 0.5% of reading} \)  Event energy (kVArh)  \( \text{ +/- 0.5% of reading} \)  \( \text{ 1.6 C 62053-21} \)  Reactive energy (kVArh)  \( \text{ 4.7 0.5% of reading} \)  \( \text{ 1.7 0.5% of reading} \)	Nominal input voltage						
Nominal input voltage burden  \[ \begin{array}{c} \text{Nom. Input current} \text{VAC} \\ \text{Nom. Input current burden} \text{VAC} \\ \text{Max. continuous input overload current} \text{120% of nominal} \\ \text{Max. short duration input current (300 msec)} \text{20 x nominal current for 1 second} \\ \text{Auxillary Powered} \\ \text{Operating range} \text{S7.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase} \\ \text{Supply burden} \text{SVA} \\ \text{Accuracy} \\ \text{Voltage (V)} \text{\$+/-0.5% of range maximum} \\ \text{Prequency (Hz)} \text{\$+/-0.5% of range maximum} \\ \text{Prequency (Hz)} \text{\$+/-0.5% of mid-frequency} \\ \text{Power factor (PF)} \text{\$+/-1% of unity (0.01)} \\ \text{Active power (W)} \text{\$+/-0.5% of reading} \\ \text{Active energy (kWh)} \text{\$+/-0.5% of reading} \\ \text{Active energy (kVArh)} \text{\$+/-0.5% of reading to IEC 62053-21} \\ \text{Reactive energy (kVArh)} \text{\$+/-0.5% of reading to IEC 62053-24} \\ \text{THD} \text{28 to 63rd harmonic} \\ \text{Measured Range} \\ \text{Voltage (V)} \text{\$5-120% of nominal (Min 100 V - self powered)} \\ \text{Current (A)} \text{\$5-120% of nominal (Min 100 V - self powered)} \\ \text{Power (W, VAr, VA)} \text{\$5-144% of nominal (bi-directional)} \\ \text{Bengy} \text{\$8 digit, upto 9999999.9 MWh} \\ \text{Power factor} \text{\$4 quadrant} \text{\$4 quadrant} \\ \text{\$4 quadrant} \text{\$4 quadrant} \text{\$4 quadrant} \text{\$4 quadrant} \\ \text{\$4 quadrant} \text{\$4 quadrant} \text{\$4 quadrant} \text{\$4 quadrant} \text{\$4 quadrant} \\ \text{\$4 quadrant} \$4 quadran	Max. continuous input overload voltage	120% of nominal					
Nominal input current  Nom. Input current burden  Ax. continuous input overload current  120% of nominal  Max. short duration input current (300 msec)  Auxiliary Powered  Operating range  57.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase  Supply burden  45 VA  Accuracy  Voltage (V)  4/- 0.5% of range maximum  Frequency (Hz)  Power factor (PF)  4/- 1% of unity (0.01)  Active power (VAr)  Apparent power (VAr)  Active energy (kWh)  Freactive energy (kVArh)  THD  2% to 63rd harmonic  Measured Range  Voltage (V)  5 - 120% of nominal (Min 100 V - self powered)  Current (A)  Frequency (Hz)  5 - 144% of nominal (bi-directional)  Energy  8 digit, upto 999999.9 MWh  Power factor  4 quadrant	Max. short duration input voltage	2 x nominal voltage for 1 second					
Nom. Input current burden    Ax. continuous input overload current   120% of nominal	Nominal input voltage burden	< 0.2 VA per phase					
Max. continuous input overload current  Max. short duration input current (300 msec)  Auxiliary Powered  Operating range  Supply burden  Accuracy  Voltage (V)  +/- 0.5% of range maximum  Frequency (Hz)  Power factor (PF)  Active power (VAr)  Apparent power (VAr)  Active energy (kVArh)  THD  2% to 63rd harmonic  Measured Range  Voltage (V)  5 - 120% of nominal  20 x nominal current for 1 second  20 x nominal maximate for second  20 x S of range maximum  20 x nominal frequency  4 - 0.5% of range maximum  4 - 0.5% of reading  20 x nominal nominal place for second  20 x nominal nominal place for second  20 x nominal nominal place for second  20 x nominal place for sec	Nominal input current	1A AC or 5A AC					
Max. short duration input current (300 msec)  Auxiliary Powered  Operating range  57.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase  Supply burden  45 VA  Accuracy  Voltage (V)  4/- 0.5% of range maximum  Frequency (Hz)  Power factor (PF)  4/- 0.5% of reading  4/- 0.5% of reading  Reactive power (VAr)  Active energy (kWh)  Reactive energy (kVArh)  THD  2% to 63rd harmonic  Measured Range  Voltage (V)  5 - 120% of nominal (Min 100 V - self powered)  Energy  Power factor  4 quadrant	Nom. Input current burden	< 0.1 VA					
Style="background-color: 180%; color: 180%	Max. continuous input overload current	120% of nominal					
Operating range         57.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase           Supply burden         <5 VA           Accuracy         +/- 0.5% of range maximum           Voltage (V)         +/- 0.5% of range maximum           Frequency (Hz)         +/- 0.5% of range maximum           Frequency (Hz)         +/- 0.2% of mid-frequency           Power factor (PF)         +/- 1% of unity (0.01)           Active power (W)         +/- 0.5% of reading           Reactive power (VAr)         +/- 0.5% of reading           Apparent power (VA)         +/- 0.5% of reading to IEC 62053-21           Reactive energy (kWh)         +/- 0.5% of reading to IEC 62053-24           THD         2% to 63rd harmonic           Measured Range         Voltage (V)           Current (A)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal (bi-directional)           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Max. short duration input current (300 msec)	20 x nominal current for 1 second					
Supply burden  < 5 VA Accuracy Voltage (V) +/- 0.5% of range maximum Frequency (Hz) Power factor (PF) Active power (VAr) Apparent power (VA) Active energy (kWArh) THD 2% to 63rd harmonic Measured Range Voltage (V) 5 - 120% of nominal Frequency (Hz) Frequency (Hz) 4/- 0.5% of reading 5 - 120% of nominal Frequency (Min 100 V - self powered) Frequency (Hz) 5 - 144% of nominal (bi-directional) Energy 8 digit, upto 9999999.9 MWh Power factor 4 quadrant	Auxiliary Powered						
Accuracy           Voltage (V)         +/- 0.5% of range maximum           Current (A)         +/- 0.5% of range maximum           Frequency (Hz)         +/- 0.2% of mid-frequency           Power factor (PF)         +/- 1% of unity (0.01)           Active power (W)         +/- 0.5% of reading           Reactive power (VAr)         +/- 0.5% of reading           Apparent power (VA)         +/- 0.5% of reading to IEC 62053-21           Reactive energy (kWh)         +/- 0.5% of reading to IEC 62053-24           THD         2% to 63rd harmonic           Measured Range         Voltage (V)           Voltage (V)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Operating range	57.7-276 V L-N (100-480 L-L) AC/DC 50/60 Hz or Self powered from any phase					
Voltage (V)	Supply burden	<5 VA					
Current (A)       +/- 0.5% of range maximum         Frequency (Hz)       +/- 0.2% of mid-frequency         Power factor (PF)       +/- 1% of unity (0.01)         Active power (W)       +/- 0.5% of reading         Reactive power (VAr)       +/- 0.5% of reading         Apparent power (VA)       +/- 0.5% of reading         Active energy (kWh)       +/- 0.5% of reading to IEC 62053-21         Reactive energy (kVArh)       +/- 0.5% of reading to IEC 62053-24         THD       2% to 63rd harmonic         Measured Range       Voltage (V)         Current (A)       5 - 120% of nominal (Min 100 V - self powered)         Current (A)       5 - 120% of nominal         Frequency (Hz)       44 - 66 Hz         Power (W, VAr, VA)       5 - 144% of nominal (bi-directional)         Energy       8 digit, upto 9999999.9 MWh         Power factor       4 quadrant	Accuracy						
Frequency (Hz)         +/- 0.2% of mid-frequency           Power factor (PF)         +/- 1% of unity (0.01)           Active power (W)         +/- 0.5% of reading           Reactive power (VAr)         +/- 0.5% of reading           Apparent power (VA)         +/- 0.5% of reading to IEC 62053-21           Active energy (kWh)         +/- 0.5% of reading to IEC 62053-24           Reactive energy (kVArh)         +/- 0.5% of reading to IEC 62053-24           THD         2% to 63rd harmonic           Measured Range         Voltage (V)           Current (A)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Voltage (V)	+/- 0.5% of range maximum					
+/- 1% of unity (0.01)   Active power (W)	Current (A)	+/- 0.5% of range maximum					
Active power (W)	Frequency (Hz)	+/- 0.2% of mid-frequency					
+/- 0.5% of reading	Power factor (PF)	+/- 1% of unity (0.01)					
Apparent power (VA)       +/- 0.5% of reading         Active energy (kWh)       +/- 0.5% of reading to IEC 62053-21         Reactive energy (kVArh)       +/- 0.5% of reading to IEC 62053-24         THD       2% to 63rd harmonic         Measured Range       Voltage (V)         Current (A)       5 - 120% of nominal (Min 100 V - self powered)         Current (A)       5 - 120% of nominal         Frequency (Hz)       44 - 66 Hz         Power (W, VAr, VA)       5 - 144% of nominal (bi-directional)         Energy       8 digit, upto 9999999.9 MWh         Power factor       4 quadrant	Active power (W)	+/- 0.5% of reading					
Active energy (kWh)	Reactive power (VAr)	+/- 0.5% of reading					
Reactive energy (kVArh)         +/- 0.5% of reading to IEC 62053-24           THD         2% to 63rd harmonic           Measured Range         Voltage (V)           Voltage (V)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Apparent power (VA)	+/- 0.5% of reading					
THD         2% to 63rd harmonic           Measured Range         Voltage (V)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Active energy (kWh)	+/- 0.5% of reading to IEC 62053-21					
Measured Range           Voltage (V)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Reactive energy (kVArh)	+/- 0.5% of reading to IEC 62053-24					
Voltage (V)         5 - 120% of nominal (Min 100 V - self powered)           Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	THD	2% to 63rd harmonic					
Current (A)         5 - 120% of nominal           Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Measured Range						
Frequency (Hz)         44 - 66 Hz           Power (W, VAr, VA)         5 - 144% of nominal (bi-directional)           Energy         8 digit, upto 9999999.9 MWh           Power factor         4 quadrant	Voltage (V)	5 - 120% of nominal (Min 100 V - self powered)					
Power (W, VAr, VA) 5 – 144% of nominal (bi-directional)  Energy 8 digit, upto 9999999.9 MWh  Power factor 4 quadrant	Current (A)	5 - 120% of nominal					
Energy 8 digit, upto 9999999.9 MWh  Power factor 4 quadrant	Frequency (Hz)	44 - 66 Hz					
Power factor 4 quadrant	Power (W, VAr, VA)	5 - 144% of nominal (bi-directional)					
4	Energy	8 digit, upto 9999999.9 MWh					
THD 0 - 40% upto 63rd harmonic	Power factor	4 quadrant					
	THD	0 - 40% upto 63rd harmonic					

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SPECIFICATION					
Environment					
Operating temperature	-25°C to +70°C				
Storage temperature	-40°C to +80°C				
Relative humidity	0 to 95%, non-condensing				
Shock	30 g in 3 planes				
Vibration	10 Hz to 50 Hz, IEC 60068-2-6, 2 g				
Surge voltage	4 kV (IEC 61000-4-5)				
Impulse voltage	6 kV (IEC 60060-1)				
Electromagnetic immunity	80 MHz - 2 GHz at 10 V/m IEC 61000-4-3				
Electrostatic discharge	15 kV (IEC 61000-4-2)				
Altitude	3000 m				
Warm-up	1 minute				
Outputs					
Pulsed output relay (self powered only)	Opto-coupled, potential-free SPST-NO contact				
Contact rating current	50 mA at 230 V AC 27 mA at 27 V DC				
Contact rating voltage	5-27 V DC				
Pulse width	60 / 100 / 200 ms				
Pulse rate	0.001/0.01/0.1/1/ 0/100/1000 kWh/kVArh				
Pulsed output relay (non-configurable)	2400IMP/kWh				
Communications					
Туре	2-wire half duplex				
Baud rate	2400, 4800, 9600, 19200, 38400				
Address	1 to 247				

# FOR MORE INFORMATION: TE Technical Support Centers

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