



# CROMPTON INSTRUMENTS INTEGRA 1221 DIGITAL METERING SYSTEM

The Crompton Instruments INTEGRA 1221 digital metering system (dms) from TE Connectivity enables cost effective solution for the measurement and display of all electrical parameters including total harmonic distortion (THD) and individual, up to the 63rd harmonic

## Display

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 power factor (PF) measurement gives clear PF indication. Total power consumption is displayed on the screen at all times.

## Q2C Wiring Solution

INTEGRA 1221 dms and the 3-in-1 current transformers include RJ12 plugs and sockets for easy connectivity and installation and the solution is available with wired looms to reduce assembly time and connection errors. IN-OUT voltage connections reduce wiring and installation time.

## Communication

Modbus RS485 RTU and two pulsed outputs are fitted as standard.

## Enclosure and System

The DIN 96 panel mounted enclosure includes integral panel mounting clips for quick and easy fitting and to suit user requirements, the range includes single-phase, three-phase three-wire and three-phase four-wire capability, all selectable at the point of installation.

## Features

- DIN 96 enclosure
- Programmable backlit LCD screen
- Voltage IN-OUT connections
- CT current measurement 0.1A
- Plug and socket connections
- Programmable VT, CT ratios
- Modbus™ RTU as standard
- 2 pulsed outputs with led indication
- PF bar indicator
- 3P4W, 3P3W, 1P2W system types
- Individual harmonics to 63rd

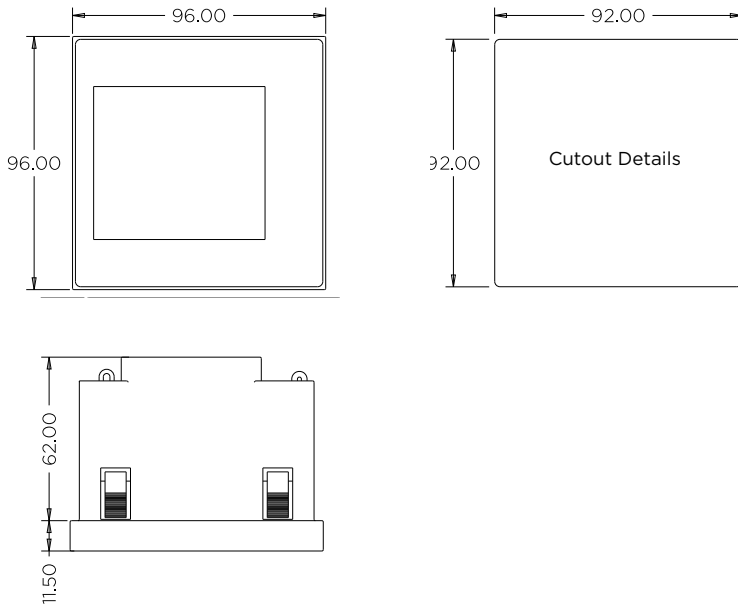
## Benefits

- Cost effective
- Easy installation
- RJ12 connection

## Approvals

- IEC BS EN 61010-1:2010
- BS EN 61326-1:2013
- IEC 62053-21 Class 1
- IEC 62053-24 Class 1

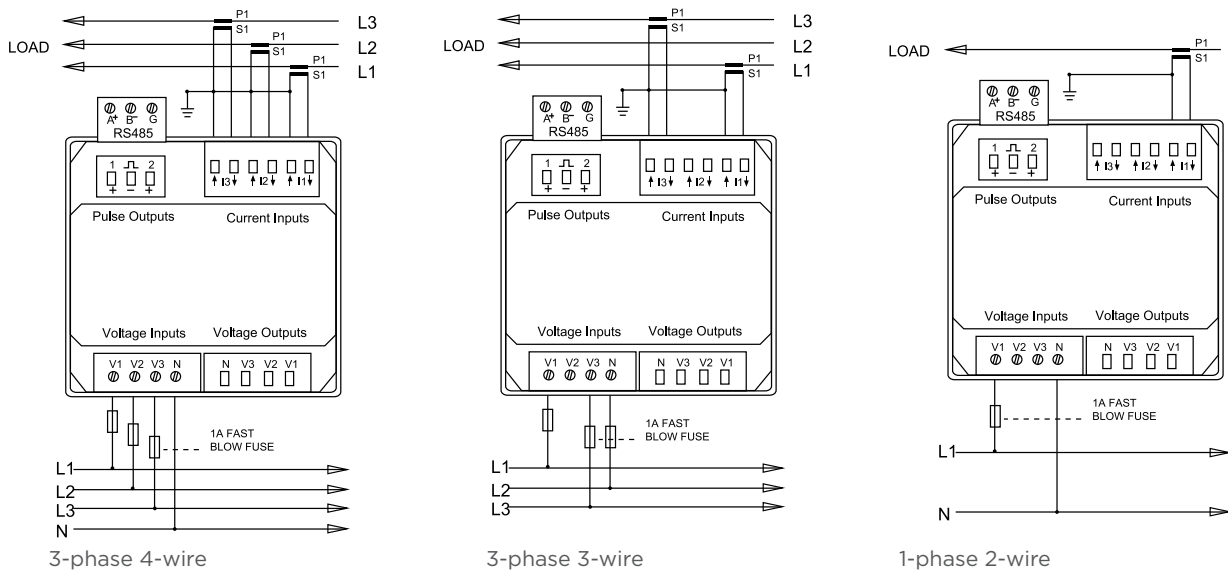
**Dimensions**



**Displayed Parameters**

- Voltage per phase L-N, L-L
- Current per phase and Max Demand
- Power Factor – per phase and system
- Total Harmonic Distortion – Voltage and Current per phase
- Neutral current
- Frequency system
- Phase Sequence
- Active Power (P) per phase, total and Max Demand
- Reactive Power (Q) per phase, total and Max Demand
- Apparent Power (S) per phase, total and Max Demand
- Energy – Active and Reactive Importing and Total
- Energy – Active and Reactive Exporting and Total

**Wiring Diagrams**



**Product Codes**

Description	Part number
INTEGRA 1221 multifunction panel meter LCD Input 480V 100mA / 1A AC 2 pulsed outputs, Modbus RS485. RJ12 CT connectivity	INT-1221-S-01

**Specifications**

Input	
Nominal input voltage	57.7 - 276V AC L-N (100-480V L-L) 576V L-L MAX
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage	2 x nominal voltage for 1 second
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	100mA
Nom. Input current burden	< 0.1 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for 1 second
<b>Auxiliary</b>	
Operating range	Self powered (from any of the three phases)
Supply burden	< 10 VA
<b>Accuracy</b>	
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)	+/- 1.0% of range maximum
Reactive power (VAr)	+/- 1.0% of range maximum
Apparent power (VA)	+/- 1.0% of range maximum
Active energy (kWh)	Class 1 IEC 62053-21 or Class 0.5 IEC 62053-22
Reactive energy (kVArh)	Class 2 IEC 62053-23
THD	2% to 63rd harmonic
<b>Measured Range</b>	
Voltage (V)	5 - 120% of nominal (Min 100V - 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	0 - 40% upto 63rd harmonic
<b>Environment</b>	
Operating temperature	-25°C to +55°C
Storage temperature	-40°C to +70°C
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Dielectric Voltage	4kV between voltage and current to earth
Altitude	3000m
Warm-up	1 minute
<b>Outputs</b>	
Pulsed output relay (configurable)	Opto-coupled, potential-free SPST-NO contact
Contact Rating current	2-27mA at 27V DC
Contact Rating voltage	5-27V DC
Pulse Width	60/100/200 ms
Pulse rate	0.001/0.01 /0.1/1/10/100/1000 kWh/kVArh
Pulsed output relay (non-configurable)	3200IMP/kWh
<b>Communications</b>	
Type	Modbus RTU (RS485)
Baud rate	2400, 4800, 9600, 19200, 38400
Address	1 to 247
<b>Enclosure</b>	
Enclosure Style	DIN 96 panel mount
Dimensions	96x96x62 mm
Panel cut-out	92x92mm
Panel thickness	1-5 mm
Protection rating	Front IP54, Rear IP30
Material	UL 94-VO
Weight	340 g
Cable size	0.05mm <sup>2</sup> - 2.5mm <sup>2</sup> stranded wire
Terminals	Voltage and Current : Shrouded screw clamp

**Parameters**

Button	Scr	Parameter
	1	Watts L1 Volts L1 Current L1 Active Energy L1
	2	Watts L2 Volts L2 Current L2 Active Energy L2
	3	Watts L3 Volts L3 Current L3 Active Energy L3
	4	Watts L1 Volts L1 Current L1 Reactive Energy L1
	5	Watts L2 Volts L2 Current L2 Reactive Energy L2
	6	Watts L3 Volts L3 Current L3 Reactive Energy L3
	1	L-N Volts L1, L2, L3
	2	L-L Volts L1, L2, L3
	3	Current L1, L2, L3, N
	4	V-THD% per line
	5	I-THD% per line
	6	Phase Sequence V&I
	1	PF and System Freq
	2	PF per phase
	3	MD per phase
	4	System Max demand P, Q, S.
	1	Active Power (P) L1, L2, L3
	2	Reactive Power (Q) L1, L2, L3
	3	Apparent Power (S) L1, L2, L3
	4	System Powers P,Q,S
	1	Imp Active Energy Exp Active Energy
	2	Imp Reactive Energy Exp Reactive Energy
	3	Total Active Energy Total Reactive Energy

## 3-IN-1 CURRENT TRANSFORMERS



The 3-in-1 current transformer range are for use with the INTEGRA 1221 digital metering system which combines three traditional current transformers in one moulding case with a RJ12 connection for simple and easy error free installation.

Product Codes	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-35-60/0.1	60A	0.25	-
DL3N1-35-125/0.1	125A	0.5	0.25
DL3N1-35-160/0.1	160A	0.35	0.25
DL3N1-35-250/0.1	250A	0.5	0.25
DL3N1-45-250/0.1	250A	0.25	-
DL3N1-45-400/0.1	400A	-	0.25
DL3N1-45-600/0.1	600A	-	0.25
DL3N1-70-400/0.1	400A	-	0.25
DL3N1-70-600/0.1	600A	-	0.25
DL3N1-70-800/0.1	800A	-	0.25

### Voltage Meter to Meter Loom

The meter to meter loom connects the voltage for upto 32 meters using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



Part Number	Length
Q2C-VMM-0600-01	600mm
Q2C-VMM-1000-01	1000mm
Q2C-VMM-1200-01	1200mm
Q2C-VMM-1500-01	1500mm
Q2C-VMM-2000-01	2000mm
<b>Other lengths available</b>	

### Voltage Meter to Open Loom

The meter to open loom connects the voltage supply from the fused connections to the meter using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



Part Number	Length
Q2C-VFO-0600-01	600mm
Q2C-VFO-1000-01	1000mm
Q2C-VFO-1200-01	1200mm
Q2C-VFO-1500-01	1500mm
<b>Other lengths available</b>	

**crompton-instruments.com**

For email or phone, go to:

crompton-instruments.com

**FOR MORE INFORMATION: TE Technical Support Centres**

UK +44 1376 509 401  
 USA: +1 800 327 6996  
 Australia +61 1300 656 090  
 Singapore +65 6590 5151  
 Hong Kong: +852 2738 8193



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