



Energy Division

Crompton Instruments DINtegra 1260 Digital Metering System



DINtegra

Multifunction DINtegra 1260 digital metering system provides programmable measurement, display and communication of up to 50 major electrical and power quality parameters including true rms system values, total harmonic distortion and power quality data.

This DIN Rail mounted enclosure offers a simple menu-driven user interface on the front panel allowing all parameters to be displayed. DINtegra 1260 DMS also benefits from optional pulsed outputs, digital inputs and digital communication (Modbus RTU). This allows enhanced status information of the measured parameters to be communicated to SCADA, building management or other systems.

Operation

The multifunction DINtegra 1260 DMS offers uncomplicated operation of three-phase voltage, current, frequency, Watts, VAR, VA, energy kWh, power factor, min/max values and total harmonic distortion measurement of both current and voltage. Status of all parameters can be viewed through the screens on the 5-line, 3-digit LED display.

System Input

Designed for all low and medium voltage switchgear and distribution systems, the DINtegra 1260 DMS offers programmable VT and CT ratio capability. Direct connection up to 300V ac with 5A CT inputs.

System Outputs/Inputs

Pulsed Outputs

DINtegra 1260 DMS offers dual pulsed outputs. Each output can be user programmed to represent import or export kWh, import or export kVAh or kVAh. The output pulses are user programmable with pulse rate divisor (Opto-isolated, open collector type).

Digital Input

DINtegra digital metering system has 2 digital inputs which are used to monitor the status of electrical contacts.

Digital Communications

RS485 Modbus RTU

DINtegra 1260 digital metering systems offer an RS485 communication port for direct connection to SCADA systems using the Modbus RTU protocol. Remote monitoring enables the user to record systems parameters in real time, using high resolution numbers.

Programmable Display

The front panel interface via the set button enables the simple programming of VT and CT ratio settings, configuration of selected communication options and adjustment of operating parameters. To prevent unauthorised access to the product configuration settings, all set-up screens can be password protected.

Features

- Din rail mounted
- High contrast LED display
- LED annunciators for each measured parameter.
- Fully programmable VT and CT ratios
- Current demand per phase
- Dual energy meter

Benefits

- True rms measurement
- Menu-driven interface
- Import and export monitoring

Applications

- Switchgear distribution systems
- Control panels
- Embedded generation
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor monitoring

Compliant

IEC1010-1 (BSEN 61010-1 – 2001)

Programmable Parameters

Parameter	Range
Password:	4 digit 0000-9999
CT ratio current:	Maximum 2000 divisor (10kA max)
VT ratio voltage:	Maximum 4000 divisor (400kv max)
Demand integration time:	1-60 minutes
4 independent resets:	Demands and maximum demands, energy registers 1 & 2 min, max values
Pulse rate divisors:	1, 10, 100
RS485 baud rate:	2.4, 4.8, 9.6, 19.2, 38.4 kBd
RS485 parity:	Odd or even (Stop bit 1)

Specifications

Input	Value
Nominal input voltage:	10 to 300V L-N, 10 to 500V L-L
Max voltage burden:	< 0.5 VA per phase
Nominal input current::	5A
Max current burden:	< 1 VA per phase
Auxiliary	
Auxiliary supply voltage range:	190V-260V ac 50/60Hz
Auxiliary supply burden:	< 4VA
Measuring Ranges	
Voltage:	10-110% of nominal
Current:	10-110% of nominal
Frequency:	45-65Hz
Power factor:	Functional 4 quadrant, 0-1 lag/lead
THD:	Up to 19th (odd harmonics only)
Energy:	11 digit resolution
Demand time:	1-60 min (programmable)

Accuracy	
Voltage:	1% of nominal upper ± 1 digit
Current:	1% of nominal upper ± 1 digit
Frequency:	1% of mid range ± 1 digit
Power factor:	1% of unity (0.01)
Active power (W):	1% of nominal upper ± 1 digit
Reactive power (VAr):	2% of nominal upper ± 1 digit
Apparent power (VA):	1% of nominal upper ± 1 digit
Active energy (Wh):	1% of nominal upper ± 1 digit
Reactive energy (VArh):	2% of nominal upper ± 1 digit
THD:	2%, up to 19th (odd harmonics only)

Enclosure	
Enclosure style:	DIN Rail mounting DIN 43880
Compliant with:	IEC 1010-1 (BSEN 61010-1-2001) CAT III, CE EMC and LVD directives
Material:	ABS UL94-V0
Terminals:	Shrouded screw-clamp 0.05mm to 4mm wire
Dielectric voltage:	Withstand test 3.25kV rms 50Hz for 1 minute between all electrical circuits
Operating temperature:	-5 to +50°C
Storage temperature:	-20 to +70°C
Relative humidity:	0-95% (non condensing)
Shock:	Static 30N Dynamic 5 Joules
Vibration:	5-50Hz (10 min)
IP protection:	IP40 front panel
Dimensions:	106mm wide x 90mm high x 58mm deep 4.17" wide x 3.54" high x 2.28" deep
Weight	0.45kg

Outputs (optional)	
RS485 communications:	Modbus RTU
Baud rates	2400, 4800, 9600, 19200, 38400
Contact form	Opto Isolated, Open Collector (NPN Transistor)
Contact rating	50mA max at 30V dc max
Pulse duration	80 ms
Pulsed outputs	2 max
Digital inputs	2 max
Input pulse width	50 ms
Operation voltage	12-48V dc

Accuracy Defined

*Error in energy readings is expressed as a percentage of the energy count that would result from applying range maximum voltage and nominal current for the same measurement period.

Error change due to variation of an influence quantity (except temperature) by varying one influence quantity within range of use, whilst keeping all other influence quantities at their nominal value is less than twice the error allowed for the reference condition applied in the test.

(This definition is applied to limit the number of combinations to be applied during type tests)

Error due to temperature variation is as above.

Error in measurement when a measurand is within its measuring range, but outside its reference range is less than twice the error allowed at the end of the reference range adjacent to the section of the measuring range where the measurand is currently operating/ being tested.

Measured Parameters

- Volts THD%
- Current THD%
- Phase - Neutral Voltages (VL-N)
- Phase - Phase Voltages (VL-L)
- System Average Phase - Neutral Voltages (VL-N)
- System Average Phase - Phase Voltages (VL-L)
- Phase Current (I)
- Total Current (I_T)
- Power Factor (P.F.)
- Frequency (Hz)
- Active Power (P)
- Min, Max and Demand Values
- Reactive Power (Q)
- Apparent Power (S)
- Total Active Power (ΣP)
- Total Reactive Power (ΣQ)
- Total Apparent Power (ΣS)
- Active Energy - Import (kWh)
- Active Energy - Export (kWh)
- Reactive Energy - Capacitive (kVArh)
- Reactive Energy - Inductive (kVArh)



Product Codes

D R I - X X

-

X X

-

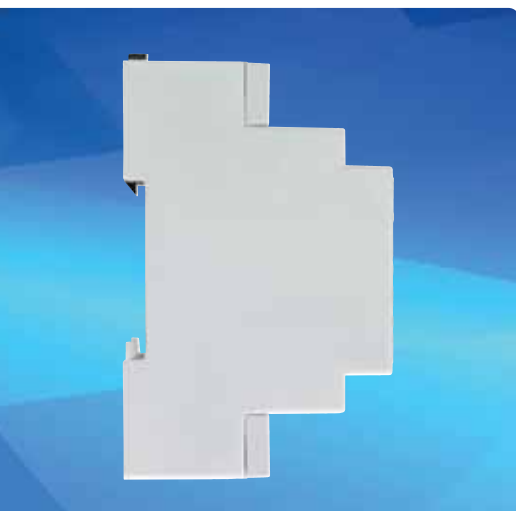
X X X

Product	System Type	Options
12 DIN Rail Integra	60 - Digital metering system	200 - Two pulse 210 - Two pulse, RS-485
LED type		
Features as specified		

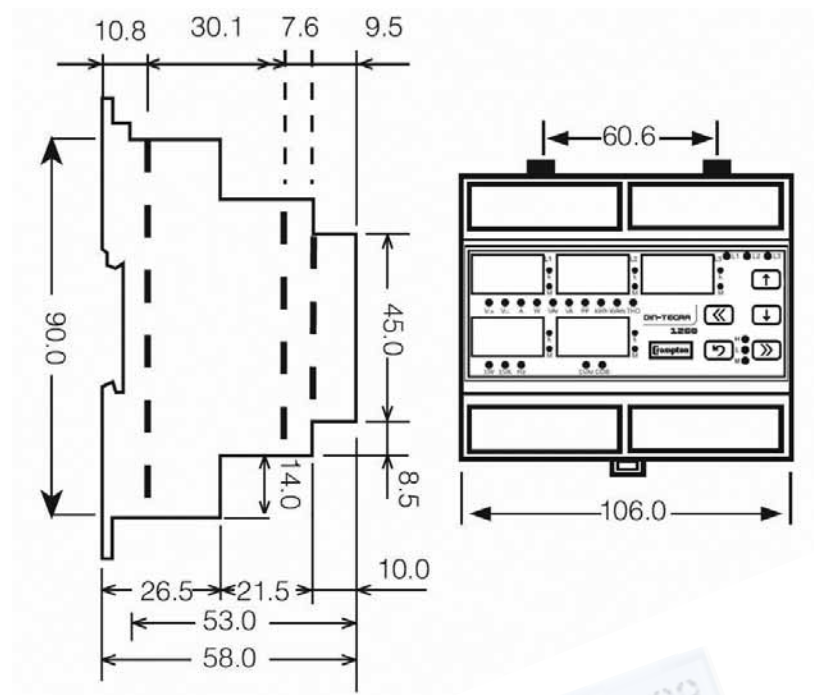
Example DRI-1260-210

DINtegra LED Display in DIN45 case

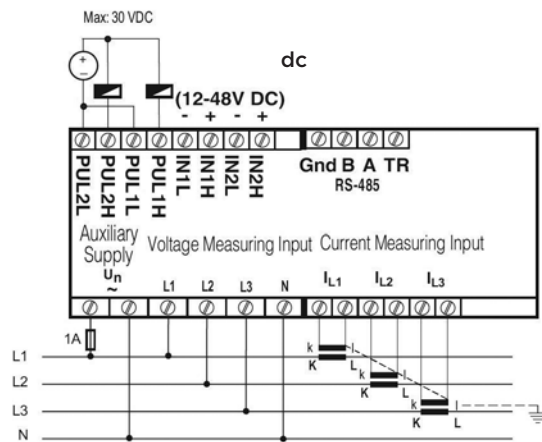
- Voltage input 10-300V L-N, CT input of 5A.
- Auxiliary 230V ac +/- 10%
- with Two Pulse & RS-485



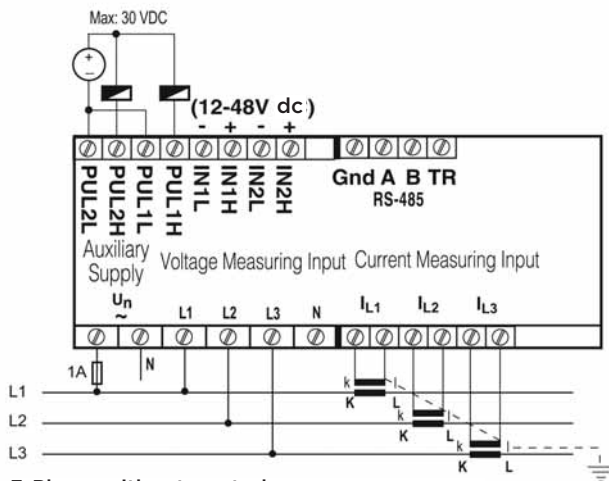
Dimensions



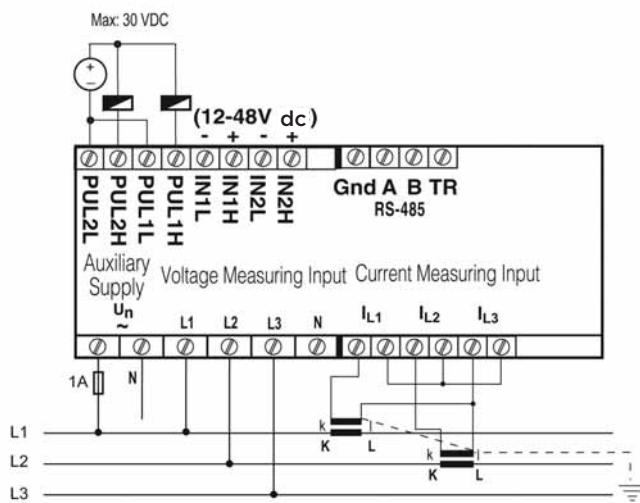
Wiring



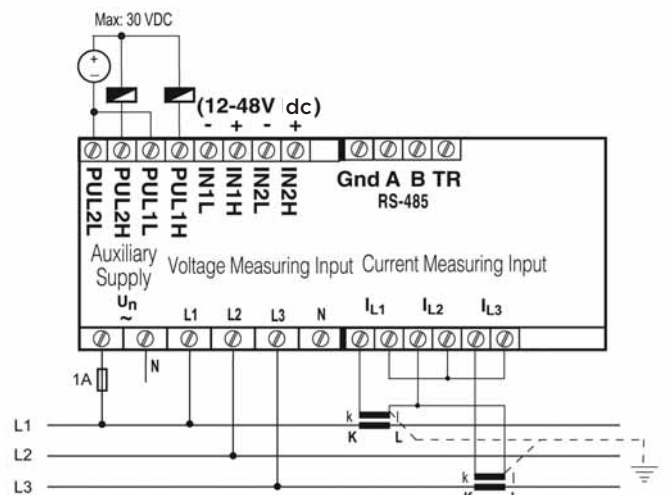
3-Phase neutral



3-Phase without neutral



3-Phase without neutral current input with Aron wiring configuration



3-Phase without neutral current input with Aron wiring configuration





CT Accessories

Crompton Instruments also offers a complete range of high quality current transformers offering comprehensive measuring and protection class accuracies. The range offers a wide selection of system current ratings, busbar sizes, case widths, apertures and mounting options to every application.

Features

- Cost effective moulded case measuring current transformers
- Limited range includes the six most popular sizes of current transformers
- Ratio ratings from 50/5 to 4000/5
- Comprehensive measurement of class accuracy
- Wide range of system current ratings, busbar sizes, case widths and apertures
- Wire sealable terminal covers
- Feet mounting and busbar options

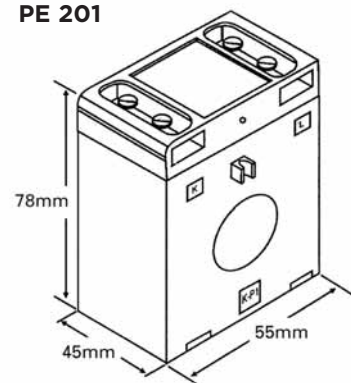
Product Codes

Product code	Ratio range	VA at CL 3	VA at CL 1	VA at CL 0.5
PE201	50/5	1.5	-	-
PE201	60/5	-	1	-
PE201	80/5	-	2	-
PE201	100/5	-	2.5	-
PE201	200/5	-	7.5	-
PE201	250/5	-	7.5	-

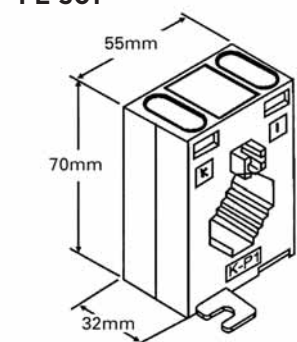
PE301	75/5	1	-	-
PE301	80/5	1	-	-
PE301	100/5	-	1	-
PE301	125/5	-	1	-
PE301	150/5	-	1	-
PE301	200/5	-	2.5	-
PE301	250/5	-	2.5	-
PE301	300/5	-	2.5	-
PE301	400/5	-	5	-
PE301	500/5	-	5	-
PE301	600/5	-	5	-

PE401	150/5	2.5	-	-
PE401	200/5	-	2.5	-
PE401	300/5	-	2.5	-
PE401	400/5	-	5	-
PE401	500/5	-	5	-
PE401	600/5	-	7.5	-
PE401	750/5	-	7.5	-
PE401	800/5	-	7.5	-

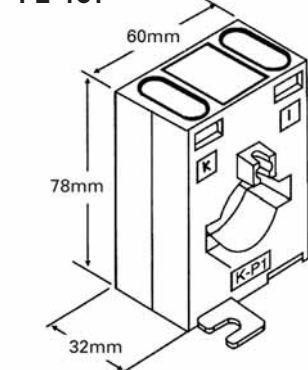
PE 201



PE 301



PE 401

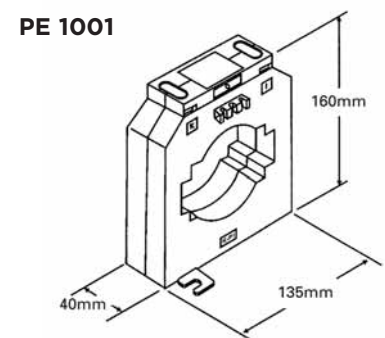
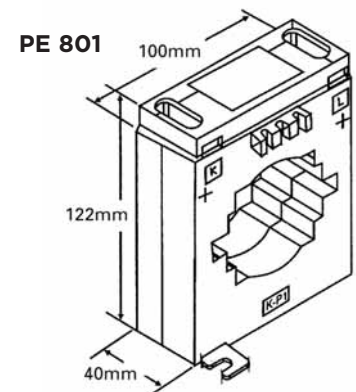
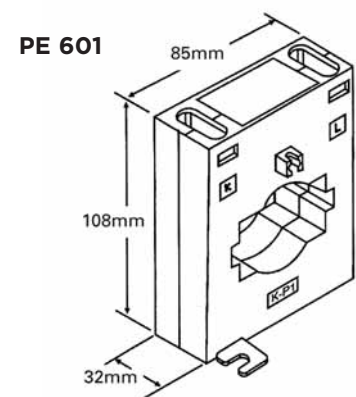




Product code	Ratio range	VA at CL 3	VA at CL 1	VA at CL 0.5
PE601	400/5	-	10	-
PE601	500/5	-	10	-
PE601	600/5	-	10	10
PE601	800/5	-	15	10
PE601	1000/5	-	15	10
PE601	1200/5	-	15	10
PE601	1500/5	-	15	10
PE601	1600/5	-	15	10

PE801	400/5	-	5	-
PE801	500/5	-	5	-
PE801	600/5	-	5	-
PE801	800/5	-	10	5
PE801	1000/5	-	10	5
PE801	1200/5	-	10	5
PE801	1500/5	-	10	5
PE801	1600/5	-	15	5
PE801	2000/5	-	15	10

PE1001	400/5	-	-	5
PE1001	500/5	-	10	5
PE1001	600/5	-	10	5
PE1001	800/5	-	15	10
PE1001	1000/5	-	15	10
PE1001	1200/5	-	15	10
PE1001	1500/5	-	30	15
PE1001	1600/5	-	30	15
PE1001	2000/5	-	30	15
PE1001	3000/5	-	-	30
PE1001	4000/5	-	-	30



Energy Division

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Tyco Electronics UK Ltd
Energy Division
Freebournes Road
Witham, Essex CM8 3AH

Phone: +44 (0)870 7500
Fax: +44 (0)870 240 5287
Email: electrical@tycoelectronics.com

www.crompton-instruments.com
<http://energy.tycoelectronics.com>

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