

Celsa Eine Voltage / Current



The digital panel meter programmable DPM Eine have been designed for industrial applications, which frequently require precise and on-site adjustment of the display range. It can be used in industrial automation and for laboratory uses.

Programmable DPM Eine measures important electrical parameters in 3 phase 4 Wire, 3 phase 3 Wire and single phase network and replaces the multiple analog panel meters.

Salient Features

- Fast & Easy Installation on panel with the help of external swivel screws.
- True RMS measurement.
- 4 Digits ultra bright LED Display.
- User selectable CT/PT Primary.
- User selectable CT/PT Secondary.
- User selectable 3ph3wire or 3ph4wire Network.
- Three auxillary Power Supply available 40V - 300V AC DC, 20-60V DC / 20-40V AC.
- Available in size - 96x96,48x96 mm

Products Features

True RMS measurement

The instrument measures distorted waveform up to 15th Harmonic.

User selectable CT Primary

The Primary of current transformer can be programmed on site from 1A to 999kA for Current DPM using front panel keys.

User selectable PT Primary

The Primary of Potential transformer can be programmed from on site 100 VLL to 999 kVLL for Voltage DPM (3V) and 57.5 VLN to 999 kVLN for Voltage DPM (V) using front panel keys.

User selectable CT Secondary

The Secondary of current transformer can be programmed on site to 1A or 5A for Current DPM using front panel keys.

User selectable PT Secondary

The Secondary of Potential transformer can be programmed on site from 100 VLL to 500 VLL for Voltage DPM (3V) and 57.5 VLN to 300VLN for Voltage DPM (V) using front panel keys.

4 digits LED display

14mm ultra bright 4 digits LED display.

User selectable 3 phase 3Wire or 4Wire Network(for 3A/3V)

User can program on site the network connection as either 3 Phase 3 Wire or 4 Wire network using front panel keys.

Onsite selection of Auto scroll / Fixed Screen(for 3A/3V)

User can set the display in auto scrolling mode or fixed screen mode using front panel keys.

Function keys

Using two function keys it is possible to Display various parameters in Current and Voltage DPM. These function keys are also used for Network selection, CT/PT Primary values, CT/PT Secondary values, Auto Scroll mode selection.

Screen No. storage

In case of power failure, the instrument memorizes the last screen stored. For every 1 min. the instrument stores the screen no. in the non-volatile memory.

Low back depth

The instrument has very low back depth (behind the panel) of less than 40mm.

Enclosure Protection for dust and water

Conforms to IP 50 (for front face) & IP 20 (for back).

EMC Compatibility

Compliance to International standard IEC 61326.

· Interference Emission :	IEC 61326-1 : 2005, Class A	
· Interference Immunity :	IEC 61326-1 : 2005	
· Electrostatic discharge :	IEC 61000-4-2 – 4kV/8kV contact/air. (ESD)	
· EM Field :	IEC 61000-4-3 – 10 V/m (80 MHz to 1 GHz)	
	– 3 V/m (1.4 Ghz to 2 GHz)	
	– 1 V/m (2 GHz to 2.7 GHz)	
· Burst :	IEC 61000-4-4 – 2 kV (5/50 ns, 5 kHz)	
· Surge :	IEC 61000-4-5 – 1 kVLL / 2 kVLN.	
· Conducted RF :	IEC 61000-4-5 – 3 V (150 kHz to 80 MHz)	
· Rated Power Frequency magnetic Field :	IEC 61000-4-8 – 30 A/m	
· Voltage dip :	IEC 61000-4-11	– 0% during 1 cycle. – 40% during 10/12 cycles. – 70% during 25/30 cycles.
· Short interruptions :	IEC 61000-4-11 –	0% during 25/30 cycles. 25 cycles for 50 Hz test. 30 cycles for 60 Hz test.

Technical Specifications

Input voltage	Nominal input voltage Ranges (AC RMS) (to be specified while ordering)	Phase –Neutral 57 - 288V L-N , Line-Line 100-500V LL(For 3V) Phase –Neutral 57.5 - 300V L-N(For V) Phase –Neutral 600VL-N(Only for V(fixed))
	Max continuous input voltage	120% of rated value
	Nominal input voltage burden	< 0.3 VA approx. per phase. < 0.4 VA approx. (For 600VLN(1 phase))
	System PT primary values	100VLL to 999kVLL programmable on site for 3 - Phase Voltage (3V). 57.5VLN to 999kVLN programmable on site for 1 - Phase Voltage (V).
Input current	Nominal input current Ranges	1A or 5A AC RMS
	System CT primary values	From 1A up to 999kA (for 1 or 5 A)
	Max continuous input current	120% of rated value (optional 150% of rated value)
	Nominal input current burden	< 0.3 VA approx. per phase
Overload indication	“oL” (If input is greater than 125% of secondary value for Voltage and 125% (optional 155%) of secondary value for current)	
Auxiliray supply	AC DC Auxiliary Supply	40-300V AC-DC (±5%) 20-40V AC / 20-60V DC
	Frequency range	45 to 65 Hz
	VA burden	< 3 VA Approx 1 VA approx at 24V AC/DC
Overload withstand	Voltage	2x rated value for 1 second, repeated 10 times at 10 second intervals
	Current	4x rated value for 1 second, repeated 5 times at 5 min intervals
Operating measuring ranges	Voltage Range	10 ... 120% of rated value
	Current Range	10 ... 120% of rated value (optional 10 ... 150% of rated value)
	Frequency	45...65 Hz
Reference conditions of accuracy	Reference temperature	23°C +/- 2°C
	Input waveform	Sinusoidal (distortion factor 0.005)
	Auxiliary supply voltage	Rated Value ±1%
	Auxiliary supply frequency	Rated Value ±1%
	Voltage Range	20...100% of Nominal Value
	Current Range	10...100% of Nominal Value
Input Frequency	50 Hz / 60 Hz	

Accuracy	Voltage Current	$\pm 1.0\%$ of Nominal value (Optional $\pm 0.5\%$ Available) $\pm 1.0\%$ of Nominal value (Optional $\pm 0.5\%$ Available)
Influence of variations	Temperature coefficient (for rated value range of use (0...50 °C))	0.025%/°C for Voltage 0.05%/°C for Current
Applicable standards	EMC Safety IP for water and dust	IEC 61326-1: 2005 IEC 61010-1-2001 , Permanently connected use IEC60529
Safety	Pollution degree Installation category High Voltage Test	2 III 2.2 kV AC, 50Hz for 1 minute.
Environmental	Operating temperature Storage temperature Relative humidity Warm up time Shock Vibration	0 to +55 °C -25 °C to +70 °C 0... 90% non condensing Minimum 3 minute 15g in 3 planes 10... 55 Hz, 0.15mm amplitude
Enclosure	Front Back	IP 50(IP 54 on request). IP 20
Dimensions and weights	a) 96x96 DPM b) 48x96 DPM	Bezel size (DIN 43 718) 96 mm x 96 mm. Panel cut-out 92 +0.8 mm x 92 + 0.8 mm. Overall depth 40 mm. Weight 310 gm. Approx. Bezel size (DIN 43 718) 48 mm x 96 mm. Panel cut-out 43.5 + 0.6 mm x 92 + 0.8 mm. Overall depth 68 mm. Weight 250 gm. Approx.

Parameters measured and displayed

A) DPM Eine 3V

Network type	Displayed Parameter
1) 3 Phase 4 wire	a. Phase –Neutral Voltage VL1 b. Phase –Neutral Voltage VL2 c. Phase –Neutral Voltage VL3 d. Line-Line Voltage VL1L2 e. Line-Line Voltage VL2L3 f. Line-Line Voltage VL3L1 g. System Voltage
2) 3 Phase 3 wire	a. Line-Line Voltage VL1L2 b. Line-Line Voltage VL2L3 c. Line-Line Voltage VL3L1 d. System Voltage

B) DPM Eine 3A

Network type	Displayed Parameter
1) 3 Phase 4 wire and 3 Phase 3 Wire	a. Phase Current IL1 b. Phase Current IL2 c. Phase Current IL3 d. System Current

C) DPM Eine V

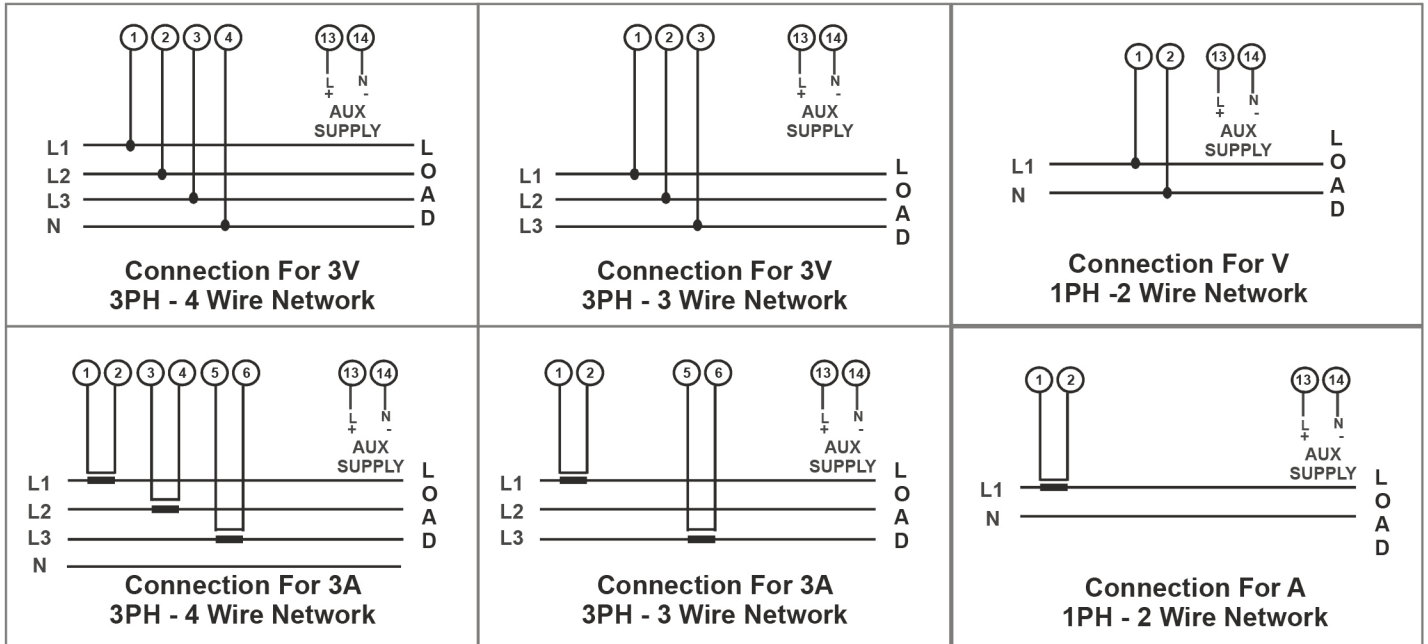
Network type	Displayed Parameter
1 Phase 2 wire	Phase –Neutral Voltage VL

D) DPM Eine 3A

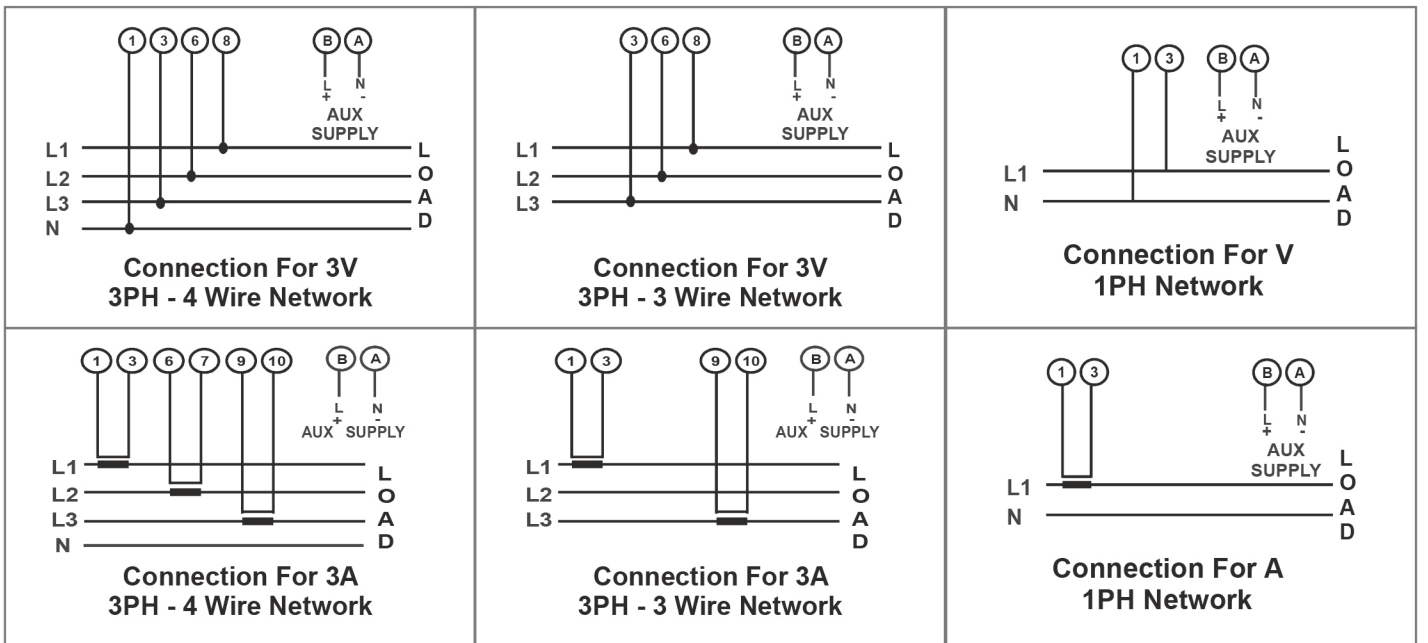
Network type	Displayed Parameter
1 Phase 2 wire	Phase Current IL

Parameters measured and displayed

A) For 96x96 DPM

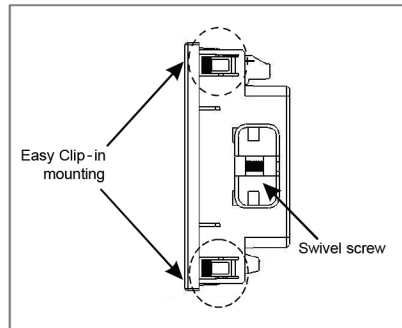


B) For 48x96 DPM

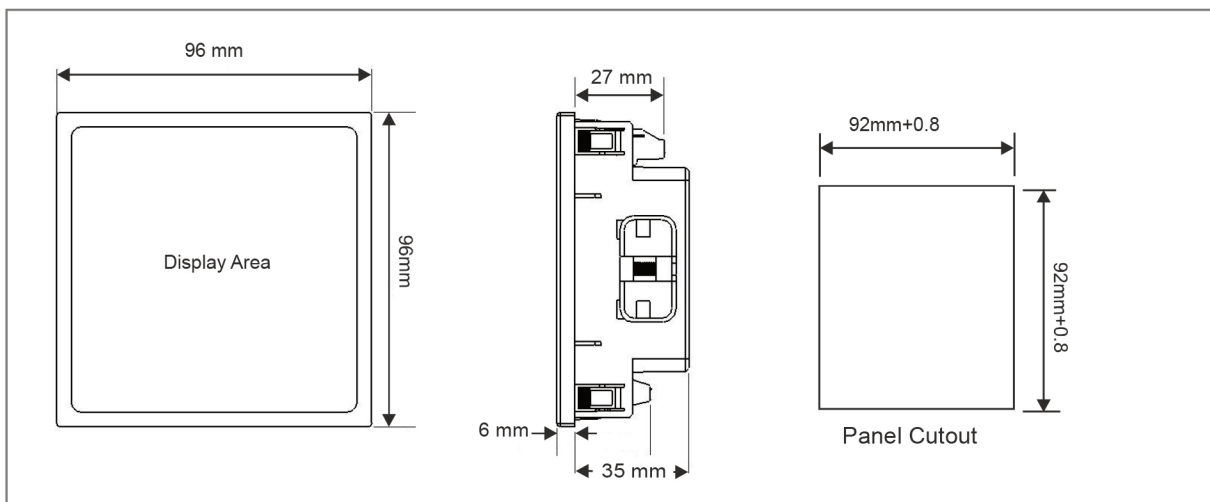


Installation and Dimensions

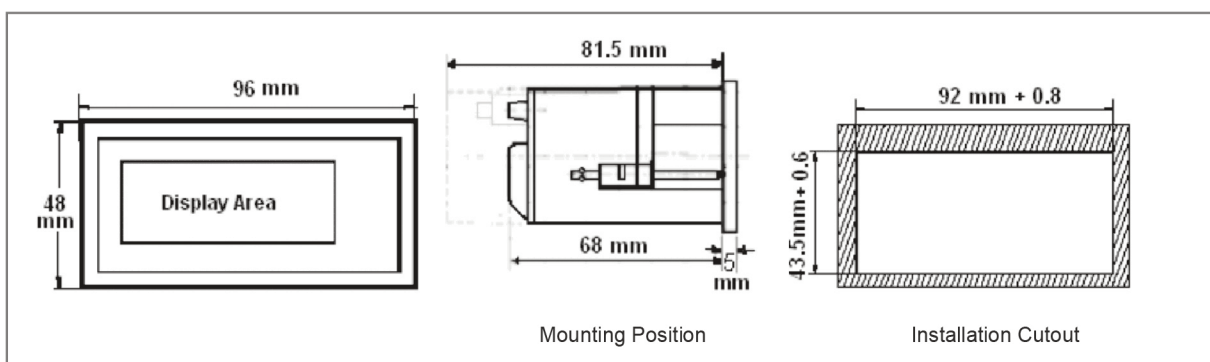
Easy Clip in Installation on Panel for 96x96 DPM:



A) For 96x96 DPM



A) For 48x96 DPM



Ordering information

Celsa Eine Voltage

A) 3-Phase Voltage (3V)

Ordering Information	Ordering Code
Celsa Eine Voltage - 3V	
System Type 3 Phase Programable as 4 wire or 3 wire on site	3V
Auxiliary Voltage 40 - 300V AC - DC ($\pm 5\%$) 20 - 60V DC / 20-40V AC ($\pm 5\%$)	AD D
Size 48x96 96x96	48 96

B) 1-Phase Voltage (V)

Ordering Information	Ordering Code
Celsa Eine Voltage - V	
System Type 1 Phase	V
Input Voltage 57.5V L-N to 300V L-N 600V L-N	300 600
Auxiliary Supply 40 - 300V AC - DC ($\pm 5\%$) 20 - 60V DC / 20-40V AC ($\pm 5\%$)	AD D
Size 48x96 96x96	48 96

Order Code Example:

- Celsa Eine Voltage - 3V - AD - 96:

Celsa Eine Voltage, 3 phases, 40-300V AC auxiliary supply, Dimensions 96x96mm

- Celsa Eine Voltage - V - 300 - AD - 48:

Celsa Eine Voltage, single phase, 57.5 to 300V L-N input voltage, 40-300V AC auxiliary supply, Dimensions 48x96mm

Celsa Eine Current

Ordering Information	Ordering Code
Celsa Eine Current	
System Type 3 Phase (Programable as 4 wire or 3 wire on site) 1 Phase	3A A
Auxiliary Voltage 40 - 300V AC - DC ($\pm 5\%$) 20 - 60V DC / 20-40V AC ($\pm 5\%$)	AD D
Size 48x96 96x96	48 96

Order Code example:

- Celsa Eine Current 3A - AD - 96:

Celsa Eine Current, 3 Phase, 40-300 V AC-DC Auxiliary Supply, Dimensions: 96x96 mm