



**Complete your panel
with our panel accessories**



Larsen & Toubro is a technology-driven company that infuses engineering with imagination. The Company offers a wide range of advanced solutions in the field of Engineering, Construction, Electrical & Automation, Machinery and Information Technology.

L&T Switchgear, a part of the Electrical & Automation business, is India's largest manufacturer of low voltage switchgear, with the scale, sophistication and range to meet global benchmarks. With over five decades of experience in this field, the Company today enjoys a leadership position in the Indian market with a growing international presence.

It offers a complete range of products including powergear, controlgear, industrial automation, building electricals & automation, reactive power management, energy meters, and protective relays. These products conform to Indian and International Standards.





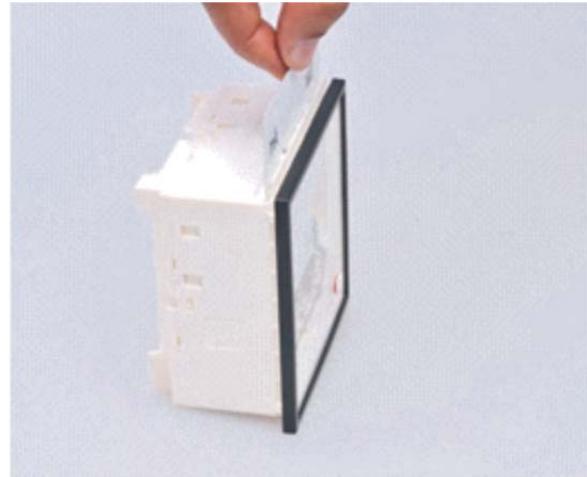
Analog Panel Meters & CT

L&T's Ivory series of analog panel meters and current transformer provide you with reliable monitoring and indication of various electrical parameters.

The product range includes:

- Ammeters
- Voltmeters
- Wattmeters
- VAR meter
- Power factor meters
- Frequency meters
- Current transformers
 - Rectangular
 - Ring type

The analog meters have wide current measuring range of 100 mA to 100 A and voltage measuring range of 6 V to 1000 V. They provide flexibility and ease in interchangeability of scales thus reducing the inventory levels.



It is available in sizes of 72 x 72, 96 x 96 and 144 x 144 and scale – 90 degree.

The limited range of CTs includes the 7 most popular sizes with ratio ratings from 30/5 to 4000/5. It also has a wide range of current ratings, busbar sizes, case widths and apertures. They have sealable terminal covers with base mounting and busbar mounting option.

They are used in switchgear, distribution system, generator sets, control panels, overload protection.

Indicating Meters

- Interchangeable scales
- Back cover as standard
- Easy glass replacement
- Robust case with superior finish

Type of instrument	Moving iron for AC current & voltage measurement (DE)	Moving coil for DC current & voltage measurement (DS)	Moving coil with built in transducer for power measurement (LM)	Moving coil built in transducer for power factor measurement (LF)	Moving coil with built in transducer for frequency measurement (FM)
Size (mm)	72 x 72, 96 x 96, 144 x 144	72 x 72, 96 x 96	96 x 96, 144 x 144	72 x 72, 96 x 96, 144 x 144	72 x 72, 96 x 96, 144 x 144
Measurement	Alternating current & alternating voltage	Direct current & Direct voltage	Power for all type of network & loading	P.F. for all types & 3 Phase balanced & unbalanced network	Frequency for all type of network
Depth behind bezel	< 30 A = 53 mm, 30 A - 60 A = 62 mm, > 60 A = 67 mm	< 6 A = 53 mm, 6 A - 60 A = 67 mm, > 60 A = 78 mm	105 mm & 131 mm for 3 phase 4 wire unbalanced loads	53 mm 53 mm	
Smallest measuring range	6 V, 100 mA	15 mV, 15/uA	Related to rated voltage 57.7 V & rated current 1 A	Related to rated voltage 57.7 V & rated current 1 A	Related to rated voltage 57.7 V (min 45 Hz)
Largest measuring range	600 V, 100 A	600 V, 100 A	Related to rated voltage 500 V & rated current 5 A	Related to rated voltage 500 V & rated current 5 A	Related to rated voltage 500 V (max. 440 Hz)
Proof voltage	3 kV AC	3 kV AC	2 kV AC	2 kV AC	2 kV AC
Weight (approx. in kg)	72 x 72 = 0.20 96 x 96 = 0.25 144 x 144 = 0.30	72 x 72 = 0.20 96 x 96 = 0.25	96 x 96 = 0.65 - 1.10 144 x 144 = 0.85 - 1.30	72 x 72 = 0.29 96 x 96 = 0.32 144 x 144 = 0.52	72 x 72 = 0.25 96 x 96 = 0.30 144 x 144 = 0.60
Accuracy class	1.5	1.5	1.5	1.5	0.5

*For Ordering Information please refer price list of analog panel meters.

Moving Iron Type AC Meter (90 Degree)

AC Voltmeter

Cat. No.*	Description
XXX001	0 - 6 V
XXX002	0 - 10 V
XXX003	0 - 15 V
XXX004	0 - 25 V
XXX005	0 - 40 V
XXX007	0 - 60 V
XXX008	0 - 100 V
XXX009	0 - 150 V
XXX011	0 - 250 V
XXX012	0 - 300 V
XXX013	0 - 400 V
XXX014	0 - 500 V
XXX015	0 - 600 V
XXX018	Any other voltmeter upto 750 V
XXX020	0 - 5 kV PTR 3.3 kV / 110 V
XXX021	0 - 15 kV PTR 11.0 kV / 110 V
XXX022	0 - 40 kV PTR 33.0 kV / 110 V
XXX027#	Any other PT operated voltmeter upto 750 V

Specify PT ratio & scale

AC Ammeter

Cat. No.*	Description
XXX028	0 - 100 mA
XXX029	0 - 150 mA
XXX030	0 - 250 mA
XXX031	0 - 400 mA
XXX032	0 - 600 mA
XXX034**	0 - 1 A
XXX035**	0 - 1.5 A
XXX036**	0 - 2.5 A
XXX037**	0 - 4 A
XXX038**	0 - 5 A
XXX039**	0 - 6 A
XXX040**	0 - 10 A
XXX041**	0 - 15 A
XXX043**	0 - 25 A
XXX044**	0 - 30 A
XXX045**	0 - 40 A
XXX046**	0 - 50 A
XXX047**	0 - 60 A
XXX957**	0 - 80 A
XXX048**	0 - 100 A

AC Ammeter - CT Operated Type

Cat. No.*	Description
XXX052**	-1 A W/O Dial
XXX053 \$\$**	Specify Dial / 1 A
XXX094**	-5 A W/O Dial
XXX095 \$\$**	Specify Dial / 5 A

** Select Suppression from Table No. 1, \$\$ Select Dial from Table No. 2
 * XXX Select 111 for 72 x 72, 112 for 96 x 96, 113 for 144 x 144

Table 1. Select Suppression for Ammeter/Dials

**	Suppression
A1	X1 (No Suppression)
A6	X6 (For Dial)
A6	X6 (For Meter)
A2	X2 (Standard Suppression)

Accessories for AC Meter

Cat. No.	Description
199K300	Red Mark on Scale
199K400	Dual Scale
199P200	Accuracy 1%
199P500	Calibered 40 Hz to 400 Hz

Table 2. List of Dials for Ammeter

\$\$	Dial	\$\$	Dial	\$\$	Dial
AY	5 x 10 Div.	CF	50 A	CR	750 A
B1	2 x 10 Div.	CG	60 A	CS	800 A
B2	3 x 10 Div.	C6	75 A	CT	1000 A
B3	4 x 5 Div.	CH	100 A	CU	1200 A
B4	5 x 5 Div.	CI	120 A	CV	1250 A
B5	6 x 5 Div.	CJ	150 A	CW	1500 A
C7	5 A	CK	200 A	CX	1600 A
C9	10 A	CL	250 A	CY	2000 A
CA	15 A	CM	300 A	CZ	2500 A
CB	20 A	CN	400 A	D1	3000 A
CC	25 A	CO	500 A	D2	Any other Dial
CD	30 A	CP	600 A		
CE	40 A	CQ	700 A		

Power Factor Meter

Cat. No.*	Description
XXX131	E1C 0.5 - 1 - 0.5 ind 240 V, 1 A, 1 PH, 1 E, 2 W bal
XXX135	E1C 0.5 - 1 - 0.5 ind 240 V, 5 A, 1 PH, 1 E, 2 W bal
XXX331	E1C 0.8 - 1 - 0.8 ind 240 V, 1 A, 1 PH, 1 E, 2 W bal
XXX335	E1C 0.8 - 1 - 0.8 ind 240 V, 5 A, 1 PH, 1 E, 2 W bal
XXX411	D1C 0.5 - 1 - 0.5 ind 110 V, 1 A, 3 PH, 1 E, 3 W bal
XXX415	D1C 0.5 - 1 - 0.5 ind 110 V, 5 A, 3 PH, 1 E, 3 W bal
XXX461	D1C 0.5 - 1 - 0.5 ind 440 V, 1 A, 3 PH, 1 E, 3 W bal
XXX465	D1C 0.5 - 1 - 0.5 ind 440 V, 5 A, 3 PH, 1 E, 3 W bal
XXX611	D1C 0.8 - 1 - 0.8 ind 110 V, 1 A, 3 PH, 1 E, 3 W bal
XXX615	D1C 0.8 - 1 - 0.8 ind 110 V, 5 A, 3 PH, 1 E, 3 W bal
XXX661	D1C 0.8 - 1 - 0.8 ind 440 V, 1 A, 3 PH, 1 E, 3 W bal
XXX665	D1C 0.8 - 1 - 0.8 ind 440 V, 5 A, 3 PH, 1 E, 3 W bal
XXX801	D2C 0.5 - 1 - 0.5 ind 110 V, 1 A, 3 PH, 2 E, 3 W unbal
XXX802	D2C 0.5 - 1 - 0.5 ind 110 V, 5 A, 3 PH, 2 E, 3 W unbal
XXX803	D2C 0.5 - 1 - 0.5 ind 440 V, 1 A, 3 PH, 2 E, 3 W unbal
XXX804	D2C 0.5 - 1 - 0.5 ind 440 V, 5 A, 3 PH, 2 E, 3 W unbal
XXX805	V3C 0.5 - 1 - 0.5 ind 110 V, 1 A, 3 PH, 3 E, 4 W unbal
XXX806	V3C 0.5 - 1 - 0.5 ind 110 V, 5 A, 3 PH, 3 E, 4 W unbal
XXX807	V3C 0.5 - 1 - 0.5 ind 440 V, 1 A, 3 PH, 3 E, 4 W unbal
XXX808	V3C 0.5 - 1 - 0.5 ind 440 V, 5 A, 3 PH, 3 E, 4 W unbal

* XXX Select 174 for 72 x 72, 176 for 96 x 96, 177 for 144 x 144
 1E : 1 Element (CT), 2 W : 2 wire, 3 W : 3 wire

Power Meter

kW Meter

Cat. No.*	Description
XXX041	E1 W 240 V 1 A, 1 P, 1 E, 2 W bal
XXX045	E1 W 240 V 5 A, 1 P, 1 E, 2 W bal
XXX211	D2 W 110 V 1 A, 3 P, 2 E, 3 W unbal
XXX215	D2 W 110 V 5 A, 3 P, 2 E, 3 W unbal
XXX271	D2 W 440 V 1 A, 3 P, 2 E, 3 W unbal
XXX275	D2 W 440 V 5 A, 3 P, 2 E, 3 W unbal
XXX311	V1 W 110 V 1 A, 3 P, 1 E, 4 W bal
XXX315	V1 W 110 V 5 A, 3 P, 1 E, 4 W bal
XXX371	V1 W 440 V 1 A, 3 P, 1 E, 4 W bal
XXX375	V1 W 440 V 5 A, 3 P, 1 E, 4 W bal
XXX411	V3 W 110 V 1 A, 3 P, 3 E, 4 W unbal
XXX415	V3 W 110 V 5 A, 3 P, 3 E, 4 W unbal
XXX471	V3 W 440 V 1 A, 3 P, 3 E, 4 W unbal
XXX475	V3 W 440 V 5 A, 3 P, 3 E, 4 W unbal
XXX601	V3 W 440 V 5 A, 3 P, 3 E, 4 W unbal without dial
XXX602	V3 W 415 V 5 A, 3 P, 3 E, 4 W unbal without dial

* XXX Select 127 for 96 x 96, 128 for 144 x 144
 1E : 1 Element (CT), 2 W : 2 wire, 3 W : 3 wire

Transducer Type Meter

Frequency Meter

Cat. No.*	Description
XXX102	45 - 50 - 55 Hz 110 V
XXX311	45 - 50 - 55 Hz 240 V
XXX310	45 - 50 - 55 Hz 440 V

* XXX Select 122 for 72 x 72, 123 for 96 x 96, 124 for 144 x 144

kVAr Meter

Cat. No.*	Description
XXX541	E1B 240 V 1 A, 1 P, 1 E, 2 W bal
XXX545	E1B 240 V 5 A, 1 P, 1 E, 2 W bal
XXX711	D2B 110 V 1 A, 3 P, 2 E, 3 W unbal
XXX715	D2B 110 V 5 A, 3 P, 2 E, 3 W unbal
XXX771	D2B 440 V 1 A, 3 P, 2 E, 3 W unbal
XXX775	D2B 440 V 5 A, 3 P, 2 E, 3 W unbal
XXX911	V3B 110 V 1 A, 3 P, 3 E, 4 W unbal
XXX915	V3B 110 V 5 A, 3 P, 3 E, 4 W unbal
XXX971	V3B 440 V 1 A, 3 P, 3 E, 4 W unbal
XXX975	V3B 440 V 5 A, 3 P, 3 E, 4 W unbal

* XXX Select 127 for 96 x 96, 128 for 144 x 144

DC Ammeter

Cat. No.*	Description
XXX022	0 - 1 mA
XXX023	0 - 1.5 mA
XXX025	0 - 2.5 mA
XXX026	0 - 4 mA
XXX027	0 - 5 mA
XXX028	0 - 6 mA
XXX029	0 - 10 mA
XXX030	0 - 15 mA
XXX031	0 - 20 mA
XXX032	0 - 25 mA
XXX033	0 - 40 mA
XXX034	0 - 60 mA
XXX035	0 - 100 mA
XXX036	0 - 150 mA
XXX037	0 - 250 mA
XXX038	0 - 400 mA
XXX039	0 - 600 mA
XXX040	0 - 1 A
XXX041	0 - 1.5 A
XXX043	0 - 4 A
XXX044	0 - 5 A
XXX045	0 - 6 A
XXX046	0 - 10 A
XXX047	0 - 15 A
XXX048	0 - 20 A
XXX049	0 - 25 A
XXX050	0 - 30 A
XXX051	0 - 40 A
XXX052	0 - 60 A
XXX053	0 - 100 A
XXX054	Any other Direct DC Ammeter upto 100 A

Moving Coil Type DC Meter

DC Ammeter - Shunt Operated Type

Cat. No.*	Description
XXX091	---/50 mV W/O Dial
XXX092\$\$	Specify Dial / 50 mV
XXX093	---/60 mV without DI
XXX094\$\$	Specify Dial / 60 mV
XXX131	---/75 mV without DI
XXX132\$\$	Specify Dial / 75 mV
XXX256	---/60 mV..0..60 mV without Dial centre Zero
XXX257\$\$	Specify Dial / 60 - 0 - 60 mV centre Zero
XXX294	---/75 mV..0..75 mV Without Dial centre Zero
XXX295\$\$	Specify Dial / 75 - 0 - 75 mV centre Zero

\$\$ Select suitable Dial from Table 2

* XXX Select 115 for 72 x 72, 116 for 96 x 96

DC Voltmeter

Cat. No.*	Description
XXX068	0 - 1 V
XXX069	0 - 1.5 V
XXX070	0 - 2.5 V
XXX071	0 - 4 V
XXX072	0 - 6 V
XXX073	0 - 10 V
XXX074	0 - 15 V
XXX075	0 - 25 V
XXX076	0 - 30 V
XXX077	0 - 40 V
XXX079	0 - 60 V
XXX081	0 - 100 V
XXX082	0 - 150 V
XXX083	0 - 200 V
XXX084	0 - 250 V
XXX085	0 - 300 V
XXX086	0 - 400 V
XXX087	0 - 500 V
XXX088	0 - 600 V
XXX090	Any other direct voltmeter upto 600 V

Special DC Meter

Cat. No.*	Description
XXX013	0 - 1 mA without Dial
XXX014	Specify Dial / 1 mA
XXX218	---/1 mA..0..1 mA WIT
XXX219	Specify Dial / 1 - 0 - 1 mA. Without Dial center zero
XXX340	0 - 10 V W/O Dial
XXX341	Specify Dial / 10 V
XXX056	4 - 20 mA W/O Dial
XXX055	Specify Dial / 4 - 20 mA

* XXX Select 115 for 72 x 72, 116 for 96 x 96

Current Transformer



Rectangular Type

Description	Cat. No.
CT Rect. 45 / 14, 50 / 5, 3.75 VA / Cl. 0.5	1P1801951
CT Rect. 45 / 14,60 / 5, 5 VA / Cl. 0.5	1P1801952
CT Rect. 45 / 21, 75 / 5, 5 VA / Cl. 0.5	1P1801953
CT Rect. 62 / 20, 100 / 5, 5 VA / Cl. 1	1P1800150
CT Rect. 62 / 30, 150 / 5, 7.5 VA / Cl. 1	1P1800094
CT Rect. 62 / 30, 200 / 5, 10 VA / Cl. 1	1P1801954
CT Rect. 62 / 30, 250 / 5, 10 VA / Cl. 1	1P1801955
CT Rect. 74 / 20, 300 / 5, 10 VA / Cl. 1	1P1800457
CT Rect. 74 / 20, 300 / 5, 15 VA / Cl. 1	1P1801956
CT Rect. 74 / 30, 400 / 5, 15 VA / Cl.1	1P1801957
CT Rect. 74 / 30, 500 / 5, 15 VA / Cl.1	1P1801958
CT Rect. 74 / 30, 600 / 5, 15 VA / Cl.1	1P1801959
CT Rect. 74 / 30, 800 / 5, 15VA / Cl. 1	1P1801960
CT Rect. 86 / 40, 000 / 5, 15 VA / Cl. 1	1P1801961
CT Rect. 86 / 50, 1200 / 5, 15 VA / Cl. 1	1P1801962
CT Rect. 86 / 60, 1500 / 5, 15 VA / Cl. 1	1P1801963
CT Rect. 104 / 60, 1600 / 5, 15 VA / Cl. 1	1P1801964
CT Rect. 140 / 80, 2000 / 5, 15 VA / Cl. 1	1P1801965
CT Rect. 140 / 100, 2500 / 5, 15 VA / Cl. 1	1P1801966
CT Rect. 140 / 100, 3000 / 5, 15 VA / Cl. 1	1P1801967
CT Rect. 140 / 100, 4000 / 5, 15 VA / Cl. 1	1P1801968

Round Type

Description	Cat. Nos.
CT Round TW - 2, 50 / 5, 5 VA / Cl. 0.5	1P1790266
CT Round TW - 2, 60 / 5, 5 VA / Cl. 0.5	1P1790267
CT Round TW - 2, 75 / 5, 5 VA / Cl. 0.5	1P1790268
CT Round TW - 2, 100 / 5, 5 VA / Cl. 1	1P1790025
CT Round TW - 2, 150 / 5, 5 VA / Cl. 1	1P1790269
CT Round TW - 2, 200 / 5, 10 VA / Cl. 1	1P1790037
CT Round TW - 2, 200 / 5, 15 VA / Cl. 1	1P1790038
CT Round TW - 3, 250 / 5, 10 VA / Cl. 1	1P1790049
CT Round TW - 3, 250 / 5, 15 VA / Cl. 1	1P1790050
CT Round TW - 3, 300 / 5, 10 VA / Cl. 1	1P1790056
CT Round TW - 3, 300 / 5, 15 VA / Cl. 1	1P1790057
CT Round TW - 4, 400 / 5, 15 VA / Cl. 1	1P1790066
CT Round TW - 4, 500 / 5, 15 VA / Cl. 1	1P1790076
CT Round TW - 4, 600 / 5, 15 VA / Cl. 1	1P1790089
CT Round TW - 5, 800 / 5, 15 VA / Cl. 1	1P1790105
CT Round TW - 5, 1000 / 5, 15 VA / Cl. 1	1P1790124
CT Round TW - 6, 1200 / 5, 15 VA / Cl. 1	1P1790142
CT Round TW - 6, 1500 / 5, 15 VA / Cl. 1	1P1790270
CT Round TW - 6, 1600 / 5, 15 VA / Cl. 1	1P1790271
CT Round TW - 6, 2000 / 5, 15 VA / Cl. 1	1P1790199
CT Round TW - 6, 2500 / 5, 15 VA / Cl. 1	1P1790216
CT Round TW - 6, 3000 / 5, 15 VA / Cl. 1	1P1790233
CT Round TW - 6, 3200 / 5, 15 VA / Cl. 1	1P1790250

Current Transformer

General Information

Standards	IEC60044-1, BS3938
Insulation	20% glass fiber reinforced polycarbonate case Flame retardant grades classified UL94 V-0
Rated voltage	720 V
Test voltage?	4 kV eff 50 Hz 1 min
Operating frequency	50 - 60 Hz
Rated secondary current	5 A or 1 A
Rated burden	1, 1.5, 2.5, 3.75, 5, 7.5, 10, 12.5, 15, 20, 30, 45, 60 VA
Class of accuracy	0.2, 0.2 s for laboratory and kWh measuring 0.5, 0.5 s for accurate measuring, kWh? 1 for general measuring with switchboard instruments 3 for other not so accurate measuring
Connection?	The secondary terminals have two connections on each side with M4 self clamp low contact resistance
Test certificate	Provided along with individual CT
Continuous over-current	1.2 x I _n

Current Transformer - Rectangular Type (Polycarbonate Case Encapsulated)

Frequency Rating 50 Hz or 60 Hz, Secondary Current 5 A

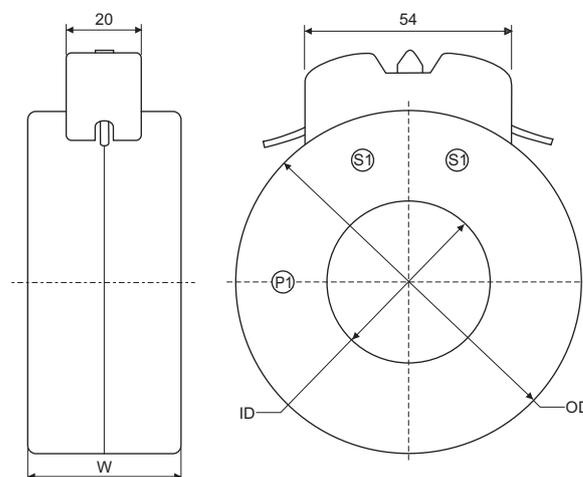
Primary current	Type	Dimensions (approx) in mm				Power Rating 9 (VA)	Accuracy Class
		A	B	C	D		
50	45 / D	45	65	40	14 Dia	3.75	5
60	45 / D	45	65	40	14 Dia	5	5
75	45 / D	45	65	40	21 Dia	5	5
100	62 / 20	62	78	40	20 x 12.5	5	1
150	62 / R	62	78	40	22 Dia	7.5	1
200	62 / 30	62	78	40	31 x 11	10	1
250	62 / 30	62	78	40	31 x 11	10	1
300	74 / 20	74	98	45	21 x 11	10	1
300	74 / 20	74	98	45	21 x 11	15	1
400	74 / 30	74	98	45	31 x 15	15	1
500	74 / 30	74	98	45	31 x 15	15	1
600	74 / 40	74	98	45	41 x 12.5	15	1
800	74 / 30	74	98	45	31 x 15	15	1
1000	86 / 40	86	110	45	41 x 11	15	1
1200	86 / 50	86	110	45	51 x 12.5	15	1
1500	86 / 60	86	110	45	61 x 12.5	15	1
1600	104 / 60	104	126	45	61 x 12.5	15	1
2000	140 / 80	140	155	45	81 x 31	15	1
2500	140 / 100	140	155	45	101 x 31	15	1
3000	140 / 100	140	155	45	101 x 31	15	1
4000	140 / 100	140	155	45	101 x 31	15	1

Current Transformer

Ring Type (Polycarbonate Case Encapsulated)

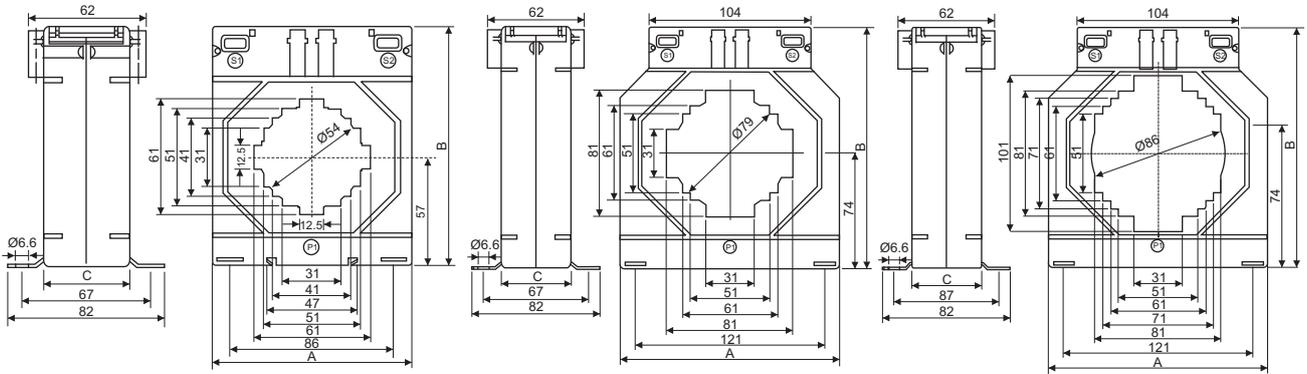
Primary current	Type	Dimensions (approx.) in mm			Power Rating 9 (VA)	Accuracy Class
		ID	OD	W		
50	TW - 2	30	73	50	5	5
60	TW - 2	30	73	50	5	5
75	TW - 2	30	73	50	5	5
100	TW - 2	30	73	50	5	1
150	TW - 2	30	73	40	5	1
200	TW - 2	30	73	50	10	1
200	TW - 2	30?	73	50	15	1
250	TW - 3	43	92	41	10	1
250	TW - 3	43	92	41	15	1
300	TW - 3	43	92	41	10	1
300	TW - 3	43	92	41	15	1
400	TW - 4	58	100	41	15	1
500	TW - 4	58	100	41	15	1
600	TW - 4	58	100	41	15	1
800	TW - 5	72	100	41?	15	1
1000	TW - 5	72	100	41	15	1
1200	TW - 6	113	159	40	15	1
1500	TW-6	113?	159	40	15	1
1600	TW - 6	113	159	40	15	1
2000	TW - 6	113	159	40	15	1
2500	TW - 6	113	159	40	15	1
3000	TW - 6	113?	159	40	15	1
3200	TW - 6	113	159	40	15	1

* The accuracies listed above are as per IS-2705/IEC-60044 * The general tolerance for dimensions shall be +/-0.2 mm



Type TW

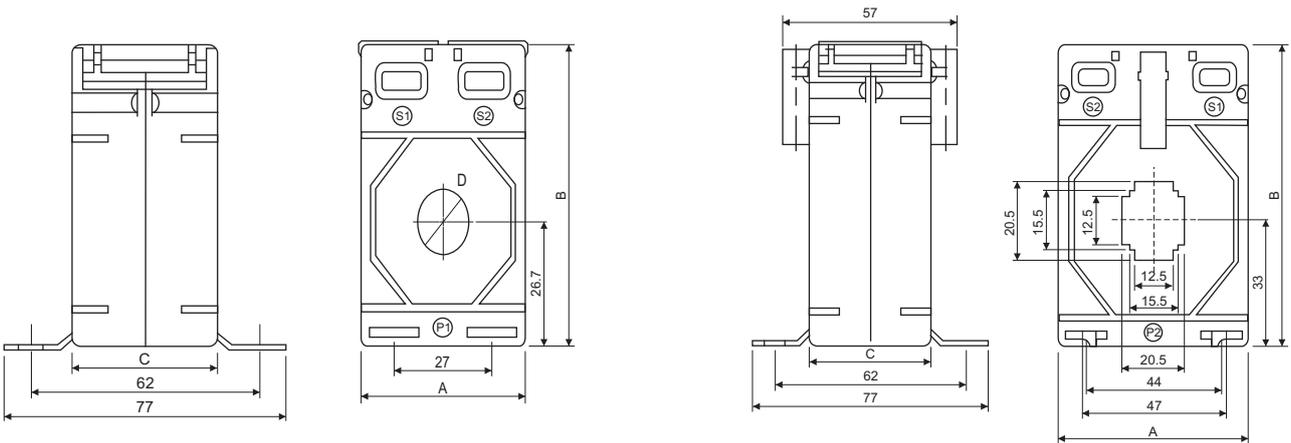
Current Transformers - Rectangular Type



Type 104/60

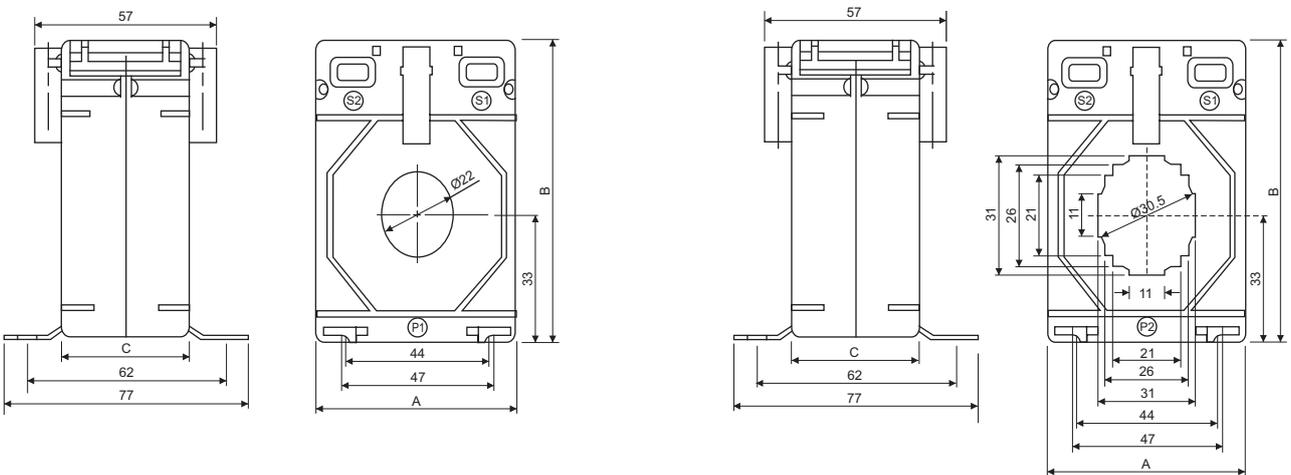
Type 104/80

Type 104/100



Type 45/D

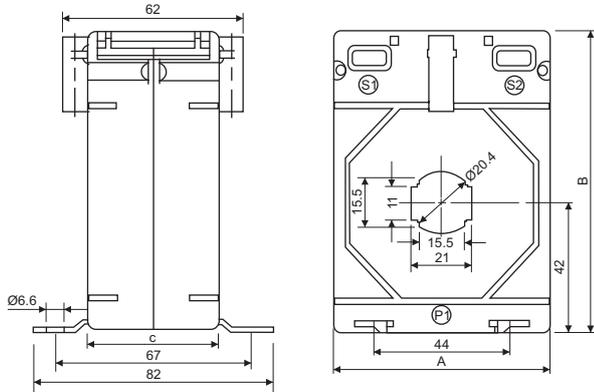
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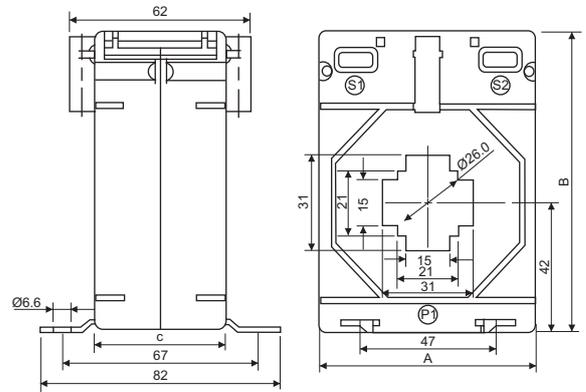
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Type 62/30

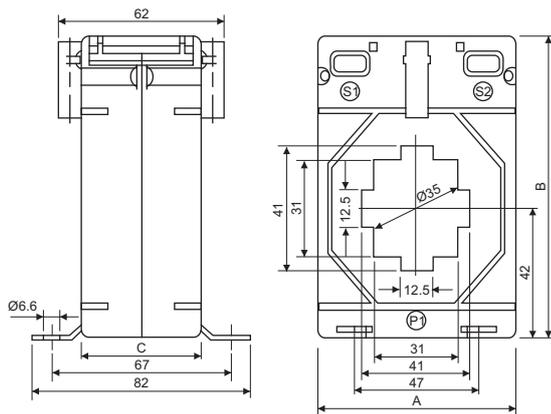
Current Transformers - Rectangular Type



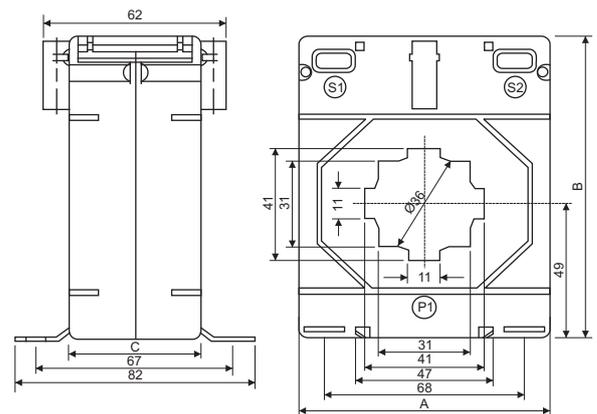
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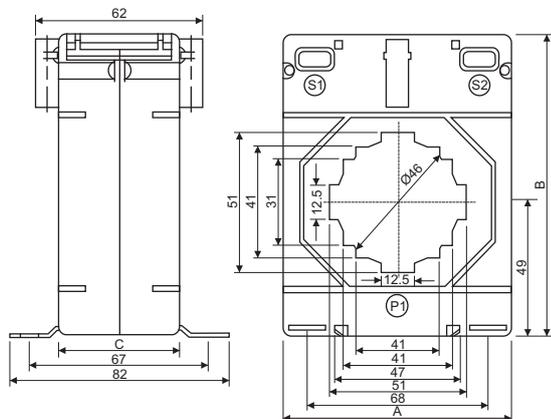
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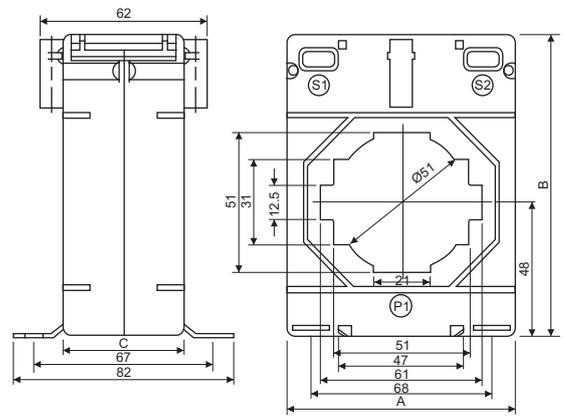
Type 74/40



Type 86/40



Type 86/50



Type 86/60



Digital Panel Meters

Single Function Digital Panel Meter | VEGA

- Wide operating range of auxiliary supply
- Field programmable CT/PT ratio with password protection
- Auto scaling of Kilo and Mega
- Displays average and phase quantities*
- Ergonomic design
- Ease of installation and usage
- Standard size of 96 x 96 mm
- Auto and manual scrolling*
- Phase indication of displayed parameter through LED*
- Ammeter with secondary currents of 1 A and 5 A

* Applicable to 3 Phase Meters



VAF Digital Panel Meters | VEGA

- 3 line LED display
- Measures V, A, f and RPM
- Models with secondary current of 5 A and 1 A
- Password protected programming mode through keypad includes
 - RPM : Number of poles programmable from 2 to 16
 - CT/PT ratio
- Suitable for 50/60 Hz electrical systems
- Auto scaling of Kilo & Mega LEDs
- Rugged design for industrial use
- Compact size of 96 x 96 mm



Multifunction Digital Panel Meters | VEGA

- 3 Line LED display
- Parameters measured - V, A, f, pf, neutral Current, phase angle, power, energy, MD kVA, MD kW, average load
- Models with secondary currents of 5 A and 1 A
- Unidirectional / bidirectional recording
- Cumulative import & export and recording of reset parameters
- Current reversal indications
- Total Harmonic Distortion (THD) display
- Programmability and communication through RS485 port
- Easy programmability through key pad
- Field programmable CT & PT ratios with password protection
- Two relays provided for tripping fault circuits on preprogrammed abnormal system conditions (Optional)
- Available in three ranges - Model A, B, C
- Auto scaling of Kilo, Mega & Giga LEDs
- Standard size of 96 x 96 mm
- Rugged design for industrial use



Technical Specifications:

(Common for Single Function, VAF & Multi-Function Panel meters)

Model	VEGA	
Auxiliary Supply	Auxiliary voltage	Single function : 90 to 300 V AC VAF : 90 to 300 V AC Multifunction : 80 to 300 V AC
	Auxiliary burden	< 4 VA
	Frequency range	50 Hz \pm 5%
Measuring Circuit (Parameters as applicable to individual meters)	Class of accuracy	For voltage, current and energy : Class 1.0 For frequency : 0.2% of mid frequency (Parameters as applicable to individual meters)
	Measurement circuit burden	< 0.2 VA per phase
	Input voltage measurement range	10 V to 300 V (P-N) 17.32 V (P-P) to 520 V (P-P)
	Basic current	-/5 A, -/1 A
	Input current measurement range	2% to 120% of basic current
	Voltage range for class of accuracy	57.7 V (P-N) to 277 V (P-N) 100 V (P-P) to 480 V (P-P)
	Current range for class of accuracy	5% to 120% of basic current
	Input frequency range	45 Hz to 65 Hz
Insulation Properties	Impulse voltage test	\pm 4 kV as per IEC 62053-21
	AC voltage test	4 kV double insulation as per IEC62053-21
	Insulation resistance	500 V DC as per IS 13779
Electrical Requirements	Test of power consumption	as per IEC 62053-21
	Voltage dips and interrupts	as per IEC 61326-1
	Short time over current protection	For Multifunction, VAF and Ammeter : 20 times of I_{max} for half a second as per 7.2 of IEC 62053-21 (Not applicable for Voltmeter and Frequency meter)
Electro-Magnetic Compatibility (EMC)	Fast transients burst test	\pm 4 kV as per IEC 61000-4-4
	Immunity to electrostatic discharge	\pm 8 kV air discharge, \pm 6 kV contact discharge as per IEC 61000-4-2
	Radiated, radio-frequency, electromagnetic field immunity test	10 V/m as per 61000-4-3
	Immunity to electromagnetic HF fields through conducted lines	3 V as per IEC 61000-4-6
	Surge immunity test	\pm 4 kV as per IEC 61000-4-5
	Rated power frequency magnetic fields	1 A/m as per IEC 61000-4-8
	Emission	Class B as per CISPR 22
Operating Conditions	Operating temperature	0°C to +55°C
	Storage temperature	-20°C to +70°C
	Humidity	0 to 95% relative humidity non-condensing
Mechanical Tests	Shock	40 g in 3 planes
	Vibration	10 to 55 Hz, 0.15 mm amplitude
	Casing	Plastic mould protected to IP51 from front side
Dimensions	Weight	Single function : 255 g (approx.) VAF : 350 g (approx.) Multifunction : 400 g (approx.)
	Dimensions	Single Function : 96* 96* 45 mm (approx.) VAF : 96* 96* 45 mm (approx.) Multifunction : 96* 96* 65 mm (approx.)
Certifications	 	

Display Parameters

Single function digital panel meter

Display parameter list		1Phase Voltmeter	3 phase Voltmeter	1Phase Ammeter	3Phase Ammeter	Frequency Meter
Voltage	R Phase	✓	✓			
	Y Phase		✓			
	B Phase		✓			
	Line Voltage		✓			
	Average		✓			
Current	R Phase			✓	✓	
	Y Phase				✓	
	B Phase				✓	
	Average				✓	
Frequency						✓

VAF digital panel meter

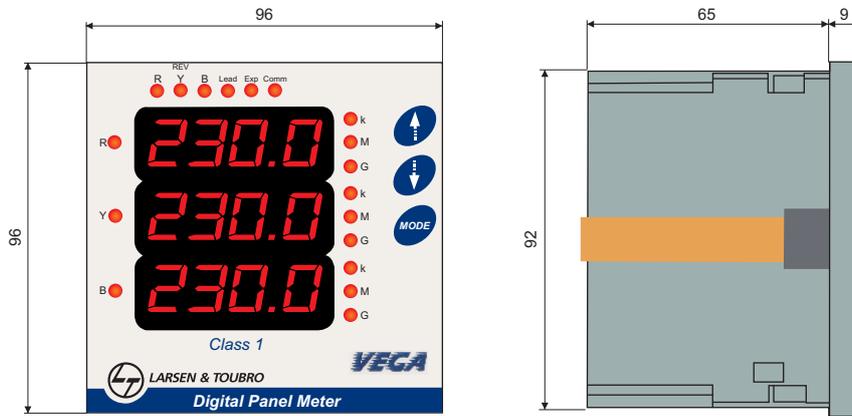
Display parameter list		VAF meter
Voltage	R Phase	✓
	Y Phase	✓
	B Phase	✓
	Line Voltage	✓
	Average	✓
Current	R Phase	✓
	Y Phase	✓
	B Phase	✓
	Average	✓
Frequency		✓
RPM (Rotations Per Minute)		✓

Multifunction digital panel meter

	Parameters	Model A	Model B	Model C
Instantaneous Parameters	V1 V2 V3 V_{avg} V12 V23 V31	✓	✓	✓
	A1 A2 A3 A_{avg}	✓	✓	✓
	A_n		✓	✓
	F	✓	✓	✓
	% Load		✓	✓
	% A Unbal, % V Unbal	✓	✓	✓
	PF-t PF-1 PF-2 PF-3	✓	✓	✓
	RPM (Rotations per minute)	✓	✓	✓
	Phase Angle $A^{\circ}1 A^{\circ}2 A^{\circ}3$	✓	✓	✓
	W1 W2 W3 W_{sum}	✓	✓	✓
	VA1 VA2 VA3 VA_{sum}	✓	✓	✓
	VAR1 VAR2 VAR3 VAR_{sum}	✓	✓	✓
Demand/ Load Parameters	Maximum demand MD VA, MD W, Max Avg A		✓	✓
	Rising demand RD VA (Import & Export), RD W, Avg A		✓	✓
	Time remaining (Import & Export) for VA		✓	✓
	Hr MD/Max occurred (VA, W, A)		✓	✓
Cumulative Parameters	Import Wh	✓	✓	✓
	Import Vah	✓	✓	✓
	Import Varh (Lead & Lag)	✓	✓	✓
	Import run hours	✓	✓	✓
	Export Wh			✓
	Export Vah			✓
	Export Varh (Lead & Lag)			✓
	Export run hours			✓
	ON hours	✓	✓	✓
	INTR	✓	✓	✓
	No. of Resets	✓	✓	✓
Reset MD	Reset MD VA		✓	✓
	Reset MD W		✓	✓
	Reset Max Avg A		✓	✓
Reset Cumulative Parameters	Import Wh	✓	✓	✓
	Import Vah	✓	✓	✓
	Import Varh (Lead & Lag)	✓	✓	✓
	Import run hours	✓	✓	✓
	Export Wh			✓
	Export Vah			✓
	Export Varh (Lead & Lag)			✓
	Export run hours			✓
Harmonic	V V1 V2 V3 - harmonic			✓
	A A1 A2 A3 - harmonic			✓
Modbus	Modbus slave ID	✓	✓	✓
	Baud rate value	✓	✓	✓
Relays (Optional)	2 Relays for fault tripping	✓	✓	✓

Overall Dimensions (mm)

(Common for Single Function, VAF & Multi-Function Panel meters)



Panel Cutout Dimensions 92 mm x 92 mm

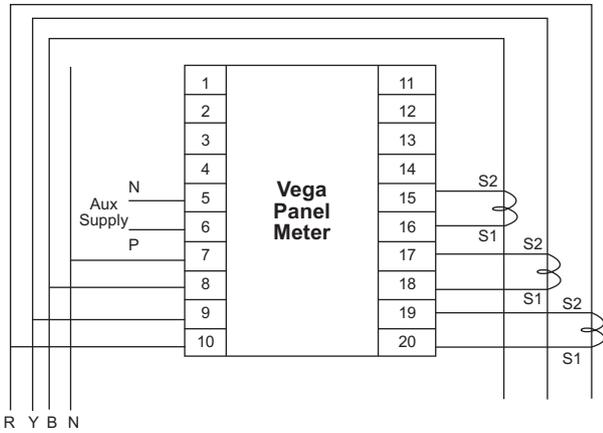
All Dimensions are in mm

Connection Details

Single Function Meters

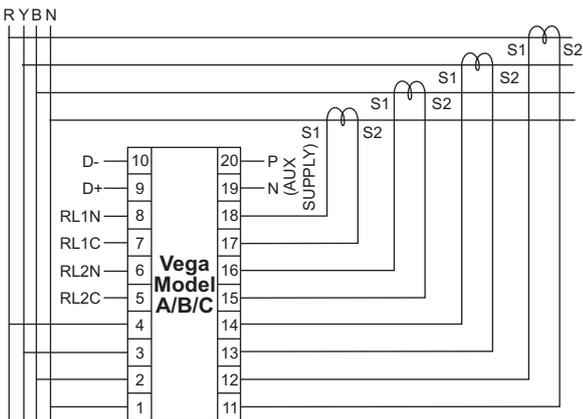
Single Phase Voltmeter	Three Phase Voltmeter
Single Phase Ammeter	Three Phase Ammeter
Frequency Meter	

VAF Meters

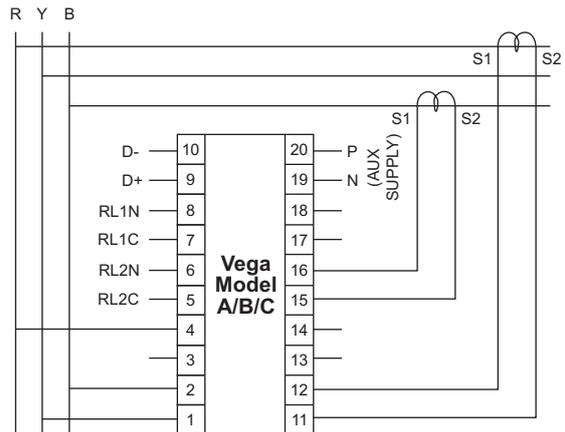


Multifunction Meters

3 Phase 4 Wire



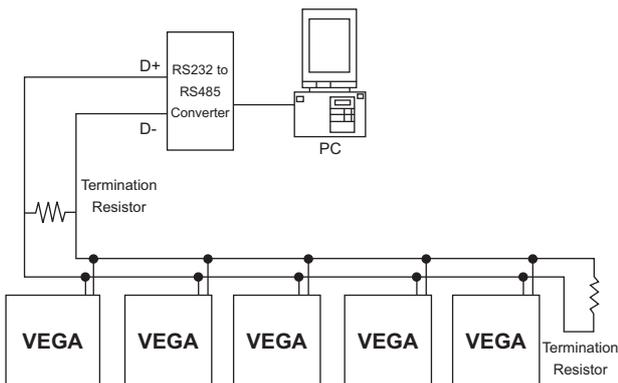
3 Phase 3 Wire



NOTE:

- Connection of point 17 and 18 is not applicable for model A
- D- and D+ are for communication using RS485
- RL1 and RL2 are relay connections

RS485 connection diagram



Ordering Information

Single Function Meters

Type of Meter	1 Phase / 3 Phase	Cat. No.
Voltmeter	1 Phase Meters	WDS101FCV00
	3 Phase Meters	WDS301FCV00
Ammeter (5 A secondary)	1 Phase Meters	WDS101FCA00
	3 Phase Meters	WDS301FCA00
Ammeter (1 A secondary)	1 Phase Meters	WDS101OCA00
	3 Phase Meters	WDS301OCA00
Frequency Meter		WDS121FCF00

VAF Meters

Type	Current Rating	Cat. No.
VAF Meters 90-300 V Aux. Supply	5 A	WDV303FC000
	1 A	WDV303OC000

Multifunction Meters

Accuracy	Type of Meter	Current Rating	Relay	Cat. No.
Class 1	Model A	5 A	With Relay	WDM303FDWA0
			Without Relay	WDM303FDWA1
		1 A	With Relay	WDM303ODWA0
			Without Relay	WDM303ODWA1
	Model B	5 A	With Relay	WDM303FDNB0
			Without Relay	WDM303FDNB1
		1 A	With Relay	WDM303ODNB0
			Without Relay	WDM303ODNB1
	Model C	5 A	With Relay	WDM303FDNC0
			Without Relay	WDM303FDNC1
		1 A	With Relay	WDM303ODNC0
			Without Relay	WDM303ODNC1
Class 0.5	Model A	site selectable	without relay	WDM313CDWA1
	Model B	site selectable	without relay	WDM313CDNB1
	Model C	site selectable	without relay	WDM313CDNC1

Intelligent Panel Meter | QUASAR

The meter is designed with DSP technology to combine measurement of both instantaneous and cumulative values in an electrical feeder. The parameters are displayed over 22 screens that can be scrolled up & down by front panel push buttons.

- Class 0.5 & 1.0 as per IS & IEC standards
- kWh, kVAh & kVAh
- LCD with back light
- CT/PT ratio programming
- RS485 communication
- Phase sequence
- Harmonic measurement



Technical Specifications:

Model	QUASAR	
Accuracy	For power	Class 1.0
	IEC 62052-11, 62053-21/ IS 13779	
	For voltage	±10%
	For current	0.5% of readout ± 2 digits
Voltage (Vn)	3 Ph 4 W- 415 V AC (-40% to +20%)	
	3 Ph 4 W- 110 V AC (-40% to +20%)	
	3 Ph 3 W- 110 V AC (-40% to +20%)	
Current (In)	5 A or 1 A ($I_{max} = 2I_n$)	
Starting Current	0.2% in (Class 1.0)	
Frequency	50 Hz ±5%	
Load Characteristics	< 8 VA in potential circuit	
	< 0.5 VA in current circuit	
Electromagnetic Compatibility:		
Electrical Fast Transient	As Per IEC 62052-11, 62053-21, Test Level: 4 kV, 5k Hz	
Surge Immunity	As Per IEC 62052-11, 62053-21, Test Level: 4 kV	
Influence of Short Time Over Currents	20 times I_{max} for 0.5 sec at rated frequency. As per IEC 62053-21	
Case Material	Plastic moulded protected to IP51- IEC 62052-11, 62053-21/IS 13779 (Class 1.0) (with panel)	
Insulation Properties:		
Insulation Resistance	As per IEC 62052-11, 62053-21 / IS 13779 (Class 1.0)	
AC voltage Test	2 kV AC RMS, 50 Hz for 1 minute as per IEC 62052-11	
Impulse Voltage	6 kV, 1.2/50 μ sec, as per IEC 62052-11	
Voltage Dips and Interrupts	As per IEC 61000-4-11	
Display	Backlit LCD, 10 mm height digits	
Pulse Output	Pulses/kWh	Voltage/Current
	2,500 / (external CT* PT)	3 Ph 4 W 415 V (L-L) / 5 A
	12,500 / (external CT* PT)	3 Ph 4 W 415 V (L-L) / 1 A
	10,000 / (external CT* PT)	3 Ph 4 W / 3 W 110 V (L-L) / 5 A
	50,000 / (external CT* PT)	3 Ph 4 W / 3 W 110 V (L-L) / 1 A
Temperature	-10°C to 60°C for operation	
	-20°C to 70°C for storage	
Humidity	95% RH non condensing	
Dimension	96 x 96 mm - depth 105 mm	
Weight	< 600 gms	

Technical Specifications:

Model	QUASAR	
Pulse output	Pulses/kWh	Voltage/Current
	2,500 / (external CT* PT)	3 Ph 4 W 415 V (L-L) / 5 A
	12,500 / (external CT* PT)	3 Ph 4 W 415 V (L-L) / 1 A
	10,000 / (external CT* PT)	3 Ph 4 W / 3 W 110 V (L-L) / 5 A
Temperature	-10°C to 60°C for operation	
	-20°C to 70°C for storage	
Humidity	95% RH non condensing	
Dimension	96 x 96 mm - depth 105 mm	
Weight	< 600 gms	

Display Parameters:

Screen 1 - V, A, kW

Screen 2 - R - Y - B Voltages

Screen 3 - R - Y - B Currents

Screen 4 - R - Y - B kW

Screen 5 - R - Y - B kVA

Screen 6 - R - Y - B kVA

Screen 7 - R - Y - B pF

Screen 8 - R - Y - B Volt angles

Screen 9 - R - Y - B Phase angles

Screen 10 - kW + kVA + kVA

Screen 11 - Pd + pF + F

Screen 12 - kWh

Screen 13 - kVAh (L)

Screen 14 - kVAh (C)

Screen 15 - kVAh

Screen 16 - R ph Voltage - Harmonics

Screen 17 - Y ph Voltage - Harmonics

Screen 18 - B ph Voltage - Harmonics

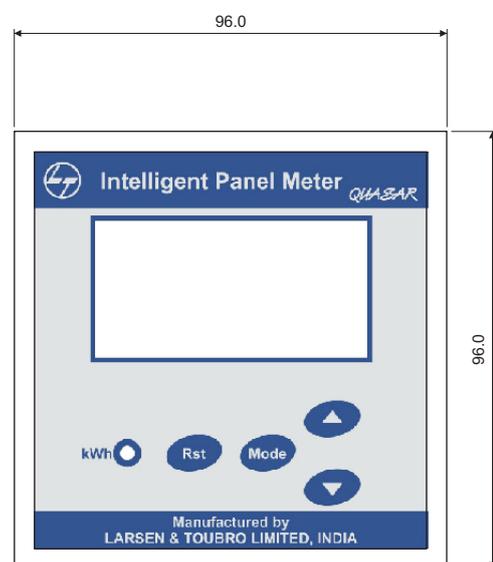
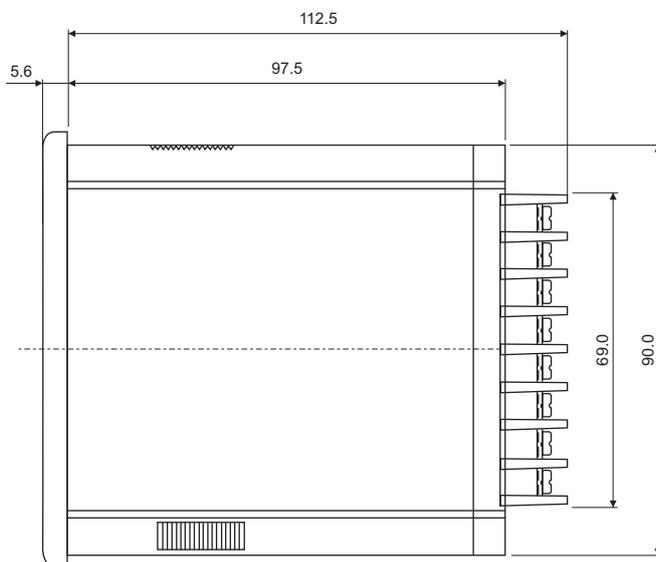
Screen 19 - R ph Current - Harmonics

Screen 20 - Y ph Current - Harmonics

Screen 21 - B ph Current - Harmonics

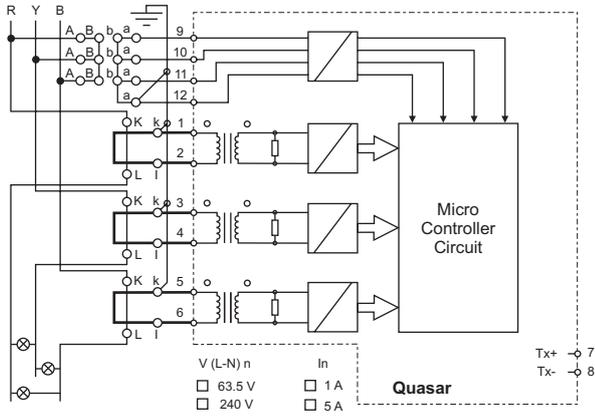
Overall Dimensions (mm)

Panel Cutout 92 x 92 mm

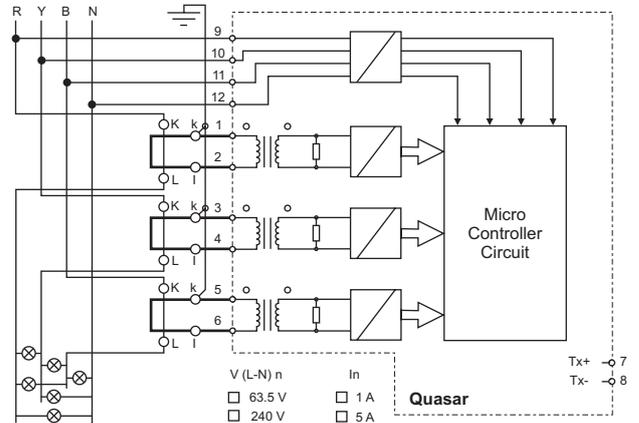


Connection Details (Wiring Diagram)

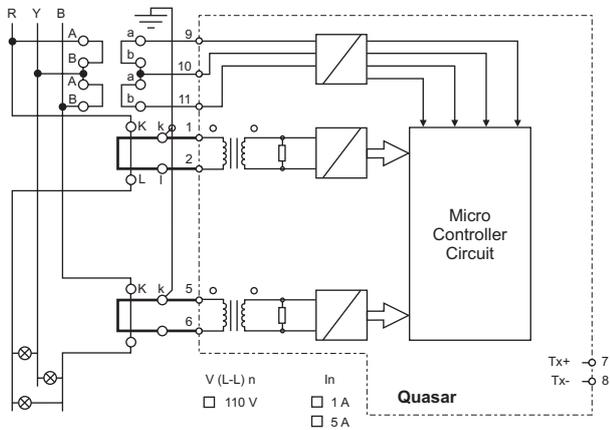
3 Ph. 4 Wire with CT & PT



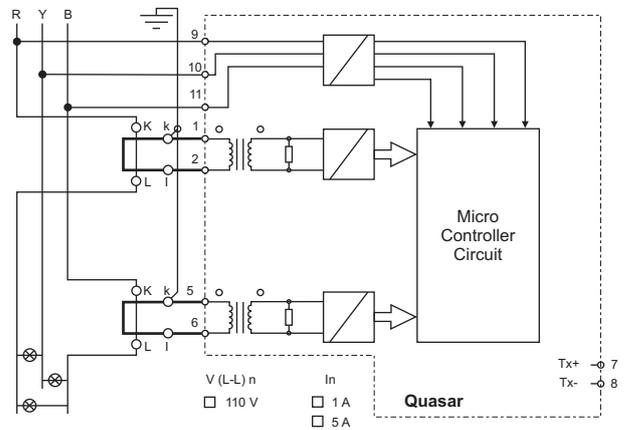
3 Ph. 4 Wire with CT & without PT



3 Ph. 3 Wire with CT & PT



3 Ph.3 Wire with CT & without PT



Ordering Information

Accuracy	Type	Voltage	Secondary Current	RS485	Cat. No.
Class 1	3 Ph, 4 W	240 V (L-N)	1 A		WI300FC1300
				✓	WI300FC13RS
			5 A		WI300FC5300
				✓	WI300FC53RS
	3 Ph, 3 W	110 V (L-L)	1 A		WI301FC1300
				✓	WI301FC13RS
			5 A		WI301FC5300
				✓	WI301FC53RS
	3 Ph, 4 W	110 V (L-L)	1 A		WI300FB1300
				✓	WI300FB13RS
			5 A		WI300FB5300
				✓	WI300FB53RS
Class 0.5	3 Ph, 4 W	240 V (L-N)	1 A		WI300FC1200
				✓	WI300FC12RS
			5 A		WI300FC5200
				✓	WI300FC52RS
	3 Ph, 3 W	110 V (L-L)	1 A		WI301FC1200
				✓	WI301FC12RS
			5 A		WI301FC5200
				✓	WI301FC52RS
	3 Ph, 4 W	110 V (L-L)	1 A		WI300FB1200
				✓	WI300FB12RS
			5 A		WI300FB5200
				✓	WI300FB52RS

Three Phase Multifunction Meter | NOVA

Nova is a compact, digital, panel mount meter for kWh measurement. Nova is flush mount 3 Phase 4 Wire CT operated kWh meter with (optional) RS485 MODBUS communication.

- Accuracy class - 1.0
- Measures kWh & kW
- Forwarded energy registration in case of current reversal
- Phase wise Voltage, Current & Power on display
- Average Voltage & Current on display
- Phase sequence on display
- RS485 MODBUS communication
- Auto & manual display mode
- User friendly menu driven LCD display
- Field programmable CT/PT ratio
- Customised LCD display & Push Button navigation
- Scroll lock feature for locking of a desired parameter on display
- Low CT/PT burden
- High resolution energy
- Auxiliary supply 88 V to 300 V AC/DC



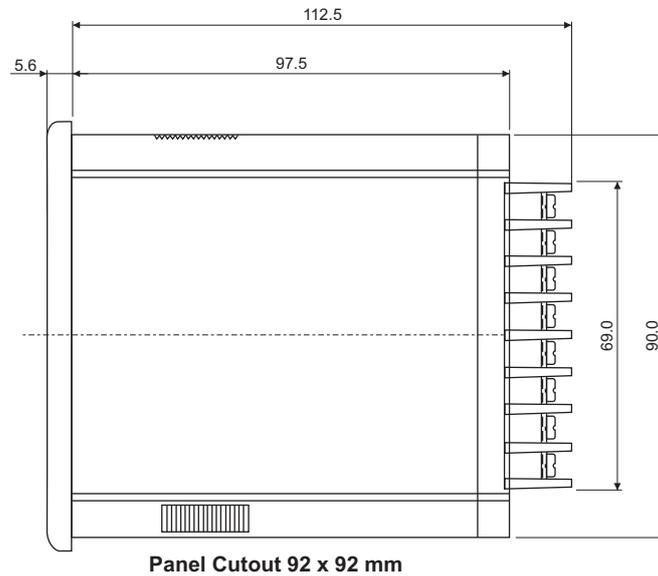
Technical Specifications:

Model	NOVA
Enclosure	Engineering Plastic complying to IP51
Dimension	96 x 96 mm x 105 mm (HxWxD) Panel Cutout: 92 x 92 mm
Connection	3 P 4 W
Display	Backlit LCD
Type	kWh Meter
Measurements	kWh / kW / Frequency / Voltage / Current
Starting Current	0.2% of rated current (5 A)
Class of Accuracy	Class 1.0
Current	5 A (rated), 10 A (max)
Voltage (P-N)	3 x 240 V (-30 % to +20 % of V Ref)
Frequency	50 Hz \pm 5%
Auxiliary Supply	88 V to 300 V AC/DC
Weight	450 gm \pm 5%
Weight with Packaging	610 gm \pm 5%

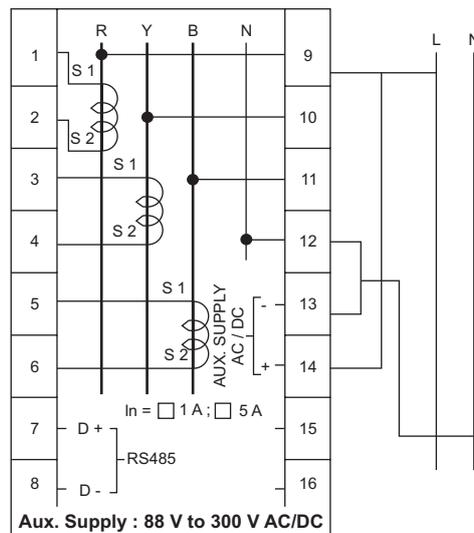
Display Parameters:

- Cumulative EB Energy kWh
- Average Voltage
- Average Current
- Total Active Power
- Frequency
- R Phase Voltage
- Y Phase Voltage
- B Phase Voltage
- R Phase Current
- Y Phase Current
- B Phase Current
- R Phase Active Power
- Y Phase Active Power
- B Phase Active Power
- Phase Sequence

Overall Dimensions (mm)



Connection Details



- Meter connection should be done exactly as shown in above diagrams
- Make the CT connections on terminals 1-2 (R-Ph), 3-4 (Y-Ph) and 5-6 (B-Ph)
- Make the PT connections on the terminals 9 (R), 10 (Y), 11 (B) and 12 (N)
- Connect the Auxiliary Supply (88 V to 300 V AC/DC) to the terminals 13 (-ve) and 14 (+ve) to power ON the meter. It can be done by shorting one phase with auxiliary as shown in the above picture

Ordering Information

Cat. No.	Description
WM30KFC3CRS	3 Ph 4 W 240 V 5 A MFM with RS485 port - Nova
WM30KFC3C00	3 Ph 4 W 240 V 5 A MFM - Nova

Counter Type kWh Meter | ACRUX

This is an ideal product for control panels to measure kWh energy. Compactness of the meter ensures that it will fit in smartly into any panel. L&T offers this product in 3 phase 4 wire.

- Class 1.0 accuracy
- Active energy measurement
- Stepper motor counter display
- Pulse output LED
- Terminal covers with sealing provision



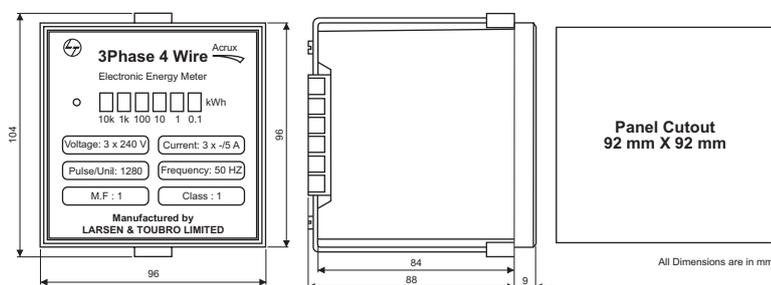
Technical Specifications:

Model	ACRUX
Accuracy	Class 1.0 as per IS 13779
Voltage Rating	240 V (3 Phase 4 Wire)
Current Rating (Ib)	5 A & 1 A
Frequency	50 Hz \pm 5%
Maximum Current	200% of Ib
Starting Current	0.4% of Ib
Operating Temperature	0 to 55°C
Display	6 Digit stepper motor counter
Enclosure	Polycarbonate
Weight	500 g (approximate)
Mounting	Flush mounting

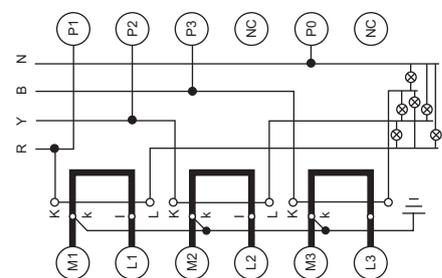
Display Parameters:

Cumulative Energy kWh

Overall Dimensions (mm)



Connection Details



3 P 4 W with CT 240 V-1 A & 5 A

Ordering Information

Cat. No.	Description
WM301FC1C10	3 Ph 4 W 240 V 1 A (kWh meter counter type) - AcruX
WM301FC3C10	3 Ph 4 W 240 V 5 A (kWh meter counter type) - AcruX

Dual Source Meter | GEMiNi

An innovative panel meter designed for dual source energy measurement. It serves as a replacement for two separate energy meters necessary for metering same application with dual energy sources.

- Class 1.0 accuracy as per IS & IEC standards
- Dual energy register for dual energy source
- RS485 MODBUS communication
- Field programmable CT, PT Values & Meter ID



Technical Specifications:

Model	GEMiNi
Enclosure	Engineering Plastic complying to IP51
Dimension	96 x 96 mm x 105 mm (HxWxD) Panel Cutout: 92 x 92 mm
Connection	3 P 4 W
Display	Backlit LCD
Type	kWh Meter
Measurements	kWh / kW / Frequency / Voltage / Current
Starting Current	0.2% of rated current (5 A)
Class of Accuracy	Class 1.0
Current	5 A (rated), 10 A (max)
Voltage (P-N)	3 x 240 V (-30 % to +20 % of V Ref)
Frequency	50 Hz ± 5%
Auxiliary Supply	88 V to 300 V AC/DC
DG Sensing Input	18 V-60 V DC/80 V-300 V AC
Weight	470 gm ± 5%
Weight with Packaging	630 gm ± 5%

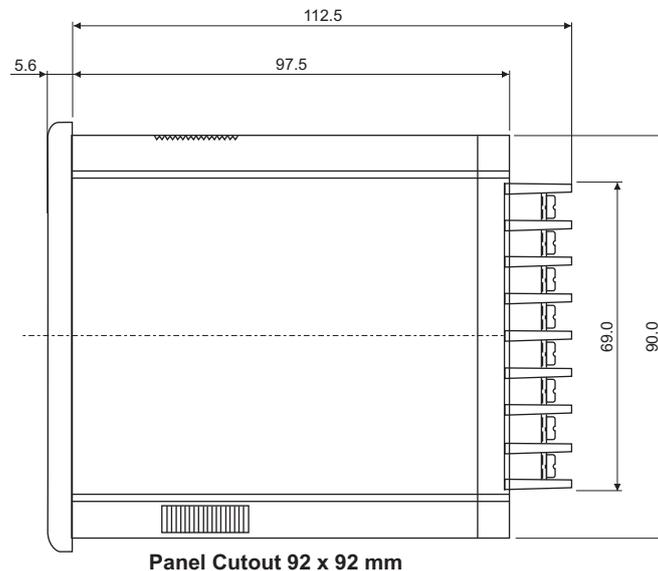
Dual Energy Registers:

Two separate energy registers are provided, one for EB (Electricity Board supply) and another for G (Generator Supply). Normally meter accumulates energy in EB register. Whenever the DG sensing signal (18 to 60 V DC /80 to 300 V AC) is present, meter accumulates energy in G register. Separate LED indication is provided on the meter front Panel, which glows when DG sensing signal is present.

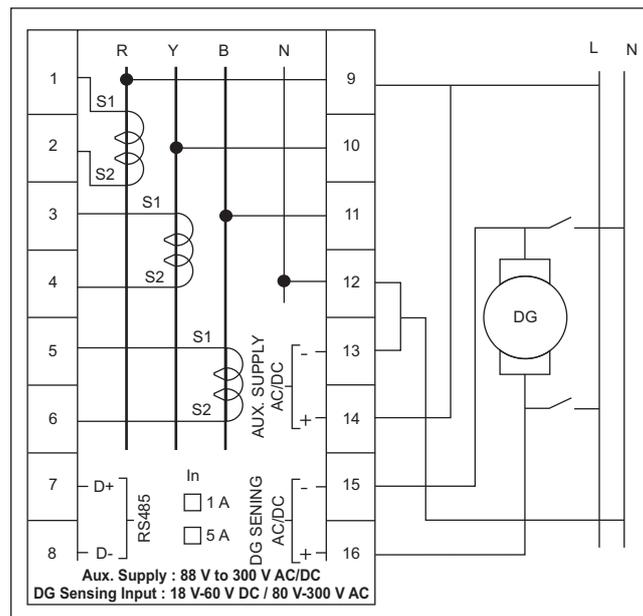
Display Parameters:

- Cumulative EB Energy kWh
- Cumulative Gen. Energy kWh
- Average Voltage
- Average Current
- Total Active Power
- Frequency
- R Phase Voltage
- Y Phase Voltage
- B Phase Voltage
- R Phase Current
- Y Phase Current
- B Phase Current
- R Phase Active Power
- Y Phase Active Power
- B Phase Active Power
- Phase Sequence

Overall Dimensions (mm)



Connection Details



- Meter connection should be done exactly as shown in above diagram
- Make the CT connections on terminals 1-2 (R-Ph), 3-4 (Y-Ph) and 5-6 (B-Ph)
- Make the PT connections on the terminals 9 (R), 10 (Y), 11 (B) and 12 (N)
- Connect the Auxiliary Supply (88 V to 300 V AC/DC) to the terminals 13 (-ve) and 14 (+ve) to power on the meter; It can be done by shorting one phase with auxiliary as shown in the above picture
- Connect the DG sensing input (18 V - 60 V DC/80 V - 300 V AC) on terminal 15 (-ve) & 16 (+ve)

Ordering Information

Cat. No.	Description
WM30DFC3CRS	3 Ph 4 W 240 V 5 A with RS485 (Dual source kWh meter) - GEMiNi

mi-ENERGY

mi-ENERGY is L&T's DIN rail mounted meter. Available in 3 phase and 1 phase models, these meters can be mounted inside distribution boxes to monitor electric consumption of identified loads, circuits and areas.

- LCD display
- Class 2 accuracy
- Displays day, week, month and push-to-push kWh consumption
- Push Button for parameter scrolling
- Low starting current
- Reverse current indication*
- Compact size and easy mounting

* For 3 Phase Meter



Display Parameters

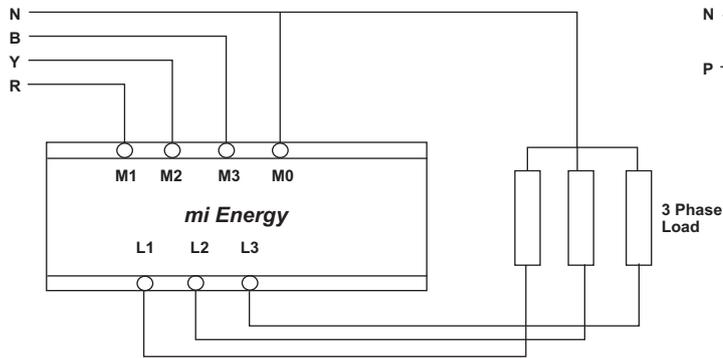
Parameters		3-Phase Meter	1-Phase Meter
Instantaneous Parameters	Phase voltage	✓	✓
	Phase current	✓	✓
	Power factor	✓	
	Active power	✓	✓
	Reactive power	✓	
	Apparent power	✓	
	Frequency	✓	
Maximum Demand	Present month	✓	
	Previous month	✓	
kWh Consumption	Total	✓	✓
	Present day	✓	✓
	Present week	✓	✓
	Present month	✓	✓
	Push-to-push	✓	✓
	Previous day	✓	✓
	Previous week	✓	✓
	Previous month	✓	✓

Technical Specifications:

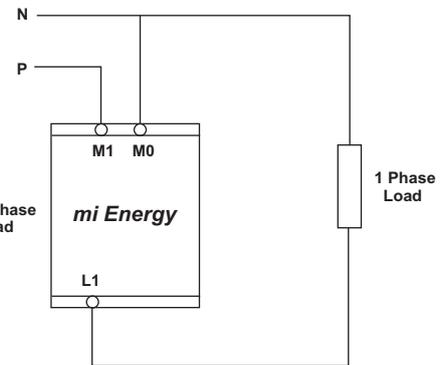
Display	Type	6 digit LCD
	Height	6 mm (10 mm in case of 3 Phase meter)
Measuring Circuit	Class of accuracy	Class 2 as per IEC 62053-21
	Measurement circuit burden	<1 W, <8 VA
	Rated Voltage	240 V
	Current	3 phase: 10-60 A 1 phase: 5-30 A
	Starting current	3 phase: 40 mA 1 phase: 20 mA
	Voltage range for class of accuracy	-30% to +20% of rated voltage
	Current range for class of accuracy	5% I_b to I_{max}
	Input frequency range	50 Hz \pm 5%
Insulation Properties	Impulse voltage test	\pm 6 kV as per IEC 62052-11
	AC voltage test	4 kV double insulation as per IEC 62053-21
	Insulation resistance	500 V DC as per IS 13779
Electrical Requirements	Test of power consumption	IEC 62053-21
	Voltage dips and interrupts	IEC 62052-11
	Short timeover current protection	20 times of I_{max} for half a second as per IEC 62053-21
Electro-Magnetic Compatibility (EMC)	Fast transients burst test	IEC 61000-4-4
	Immunity to electrostatic discharge	IEC61000-4-2
	Immunity to electromagnetic HF fields	IEC61000-4-3
	Immunity to conducted disturbances by RF field	IEC61000-4-6
	Surge immunity test	\pm 4 kV as per IEC 61000-4-5
Climatic Test	Dry heat test	IS 9000 (part 3)
	Cold test	IS 9000 (part 2)
	Damp heat cyclic test	IS 9000 (part 5)
Operating Conditions	Operating temperature	-10°C to +55°C
	Storage temperature	-20°C to +70°C
Mechanical Tests	Shock	IS 9000 (part 7)
	Vibration	IS 9000 (part 8)
	Resistance to dust and water	IP20
Dimensions	Weight	3 phase: 460 g (approx.) 1 phase: 150 g (approx.)
	Dimensions	3 phase: 125 mm x 83 mm x 63.5 mm (approx.) 1 Phase: 36 mm x 83 mm x 66.73 mm (approx.)

Wiring Diagram

3-Phase



1-Phase

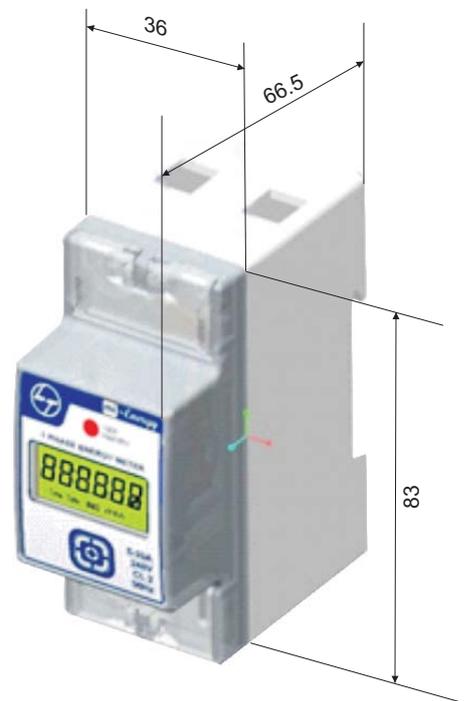


Dimensional Details

3-Phase



1-Phase



All Dimensions in mm

Ordering Information

3 phase 4 wire 240 V 10-60 A	W4DLD100600
1 phase 2 wire 240 V 5-30 A	W2DLD050600

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Product improvement is a continuous process. For the latest information and special applications, please contact any of our offices listed here.



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