1XXX LED SERIES

DIGITAL PANEL METER
SINGLE FUNCTION METER

INSTRUCTION MANUAL

Lauritz Knudsen
Electrical & Automation

Manufacturer assumes no responsibility for a hazard or damage caused by incorrect or non-application of any of the instructions attached herein.

Use according to the operating instructions, professional practices, wiring rules, codes, safety regulations applicable to the given installation.

Disconnect the power and isolate before proceeding with any work on this equipment.

Always use an appropriate voltage detection device to Confirm the absence of voltage.

Installation, commissioning and maintenance to be done by qualified personnel only

Hazards of electric shock and burning.

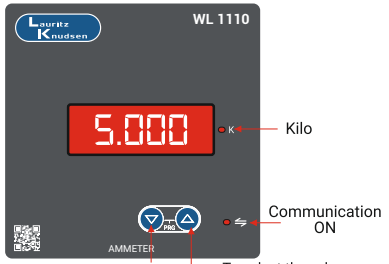
Carton & padding can be recycled.

Poly bags can be recycled separately

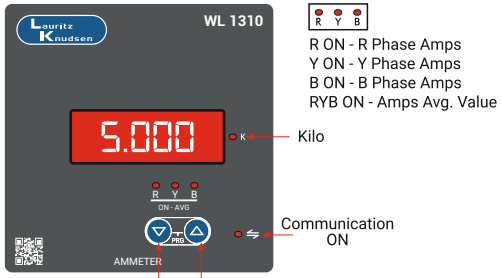
1. Features

- Site selectable for 3P 4W, 3P 3W, 1P
- Accuracy class 1 as per IEC 62053-21, class 0.5 as per IEC 62053-22
- True RMS measurement
- Auto and manual scrolling
- Field programmable CT, PT ratio
- Site selectable 1A/5A
- Phase wise and average display of voltage & current as per applicable meter
- Inbuilt selector switch for 3 phase models
- Wide operating range of 80 to 300V AC/DC auxiliary supply
- Suitable for 50/60 Hz

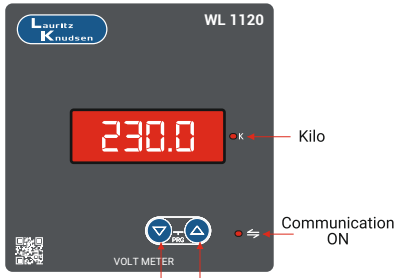
2. LED Indication



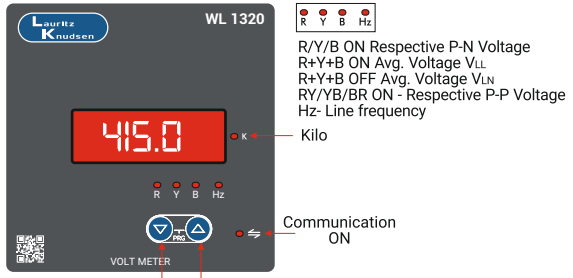
SINGLE PHASE AMMETER



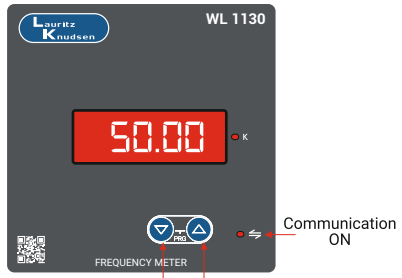
THREE PHASE AMMETER



SINGLE PHASE VOLTMETER



THREE PHASE VOLTMETER



FREQUENCY METER

3.TECHNICAL SPECIFICATION

Type of measurement	Type	3 Ph 4 W, 3 Ph 3 W, 1 Ph
		True RMS, 64 samples per cycle 1 sec update time
Measurement accuracy		Class 1 as per IEC 62053-21
		Class 0.5 as per IEC 62053-22
Display type and resolution	LED	4 digit
Measuring circuit	Input voltage	50 - 520 V_{LL}
		PT Primary and Secondary user programmable for LT and HT applications
		Burden: 0.2VA max per phase
	Input current	-/5A and -/1A site selectable
		Current range from 50mA - 5A with overload capacity upto 120% In (i.e., 6A)
		CT Primary and Secondary user programmable for LT and HT applications
	Frequency	40 - 70 Hz
Auxilliary circuit	Aux voltage	80 - 300V AC/DC
	Aux burden	<5VA
	Freq range	40 - 70 Hz
Electrical requirements	Test of power consumption	as per IEC 62053-21
	Voltage dips & interrupts	as per IEC 62053-21
	Short time over current protection	10A max continuous, 20 times of In for 3 sec

Electro-magnetic compatibility (EMC)	Fast transients burst test	±4 kV as per IEC 61000-4-4
	Immunity to electrostatic discharge	±8 kV air discharge, ±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	10 V/m as per IEC 61000-4-6
	Surge immunity test	±6 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
Insulation properties	Impulse voltage test	±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
Operating conditions	Operating temperature	-10° C to +55° C
	Storage temperature	-25° C to +70° C
	Humidity	5% to 95% relative humidity non-condensing
	Recommended wire	2.5 sq mm
Mechanical conditions	Shock	As per standard IEC 60068-2
	Vibration	10 to 55 Hz, 0.15 mm amplitude
	Casing	Plastic mould protected to IP54 on front
Safety	Measurement category	CAT III
	Pollution degree	2
	Protection	IP20 at terminals, IP54 on front
Weight & dimensions	Product weight	290 gms
	Bezel dimension (W X H X D)	96 x 96 x 45 mm
	Panel cutout	92 x 92 mm $^{+0.8}_{-0.0}$
Certifications		CE, RoHS

4. Programming Mode

4.1 Programming keys

To select Edit Mode and save parameter
DOWN to decrement value or parameter

4.2 General Programming Guide

- Press UP + Down to enter setup mode
- Enter Password (default value 0000)
  Blink indicates Edit Mode is ON
- Press DOWN to decrement value
  0/9/8/7/6/5/4/3/2/1
- Press UP to move to the next digit till 4th digit
  If Password is correct, editing is possible
- Press DOWN to decrement values or to select from available options
- Press UP to save the value of the parameter
- Press DOWN to edit next parameters till end after the configuration of last parameter display screen will prompt "SAVE", display reads "Y" (YES)
- Press Down to change to "n" (NO)
- Press UP to save

Note: There is no any other password for these models(default 0000).

4.3. DISPLAY

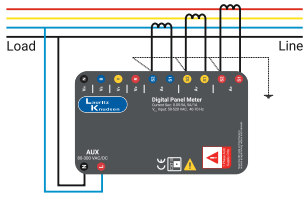
Programming Parameter	Default	Option/Range
ConFIG (ConF) Defines the power system configuration.	3P 4W	3P 4W * 3P 3W 1 Phase
PT Primary (P.Pri)	415	100V-999kv ** To set 33kV Set first four digits (3300) as explained above press UP/DOWN key to place decimal point at appropriate location. LED K will indicate Kilo.
PT Secondary** (P.SEC)	415.0	50V to 550V
CT Primary*** (C.Pri)	5.000	0.5A - 99KA
CT Secondary*** (C.SEC)	5.000	0.5A - 6A

* applicable for WL1310, WL1320 only
** applicable for WL1120 and WL 1320 only
*** applicable for WL1110 and WL 1310 only

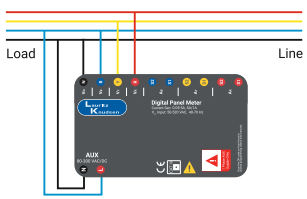
4.4. ENABLING AND DISABLING AUTO SCROLLING

Press DOWN for 6 secs
Display Shows: EnbL.
Again press DOWN for
6 sec Display Shows: dSbL.

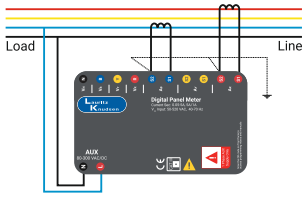
5. WIRING DIAGRAM



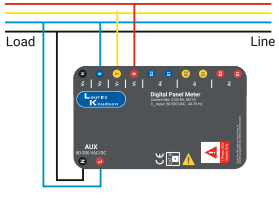
3 Phase 4 Wire System
(WL1310)



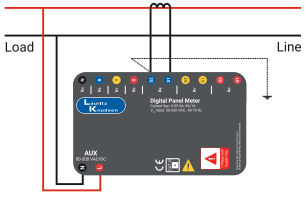
3 Phase 4 Wire System
(WL1320)



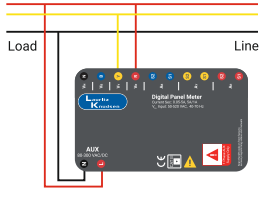
3 Phase 3 Wire System
(WL1310)



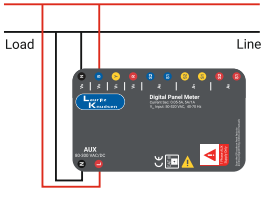
3 Phase 3 Wire System
(WL1320)



Single Phase System
(WL1110)

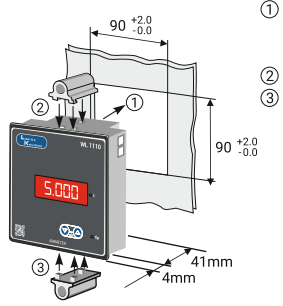


Single Phase System
(WL1120)



Single Phase System
(WL1130)

6. MOUNTING DIMENSIONS



① Steps for Mounting
Insert meter to panel without clamps

②③ Insert both clamps

7. TROUBLE SHOOTING

1) Meter display does not turn ON.
   a) Check that there is power supply applied on Aux supply terminals.
   b) Check fuse connection (Use fuse connection of specified ratings).
2) Data displayed / reading incorrect.
   a) Check that CT /PT ratios are properly set.
   b) Check if proper configuration mode 3P4W, 3P3W, 1Phase is correctly set.
3) PT readings are incorrect / CT readings are incorrect.
   a) CT connections may be reversed, check and correct CT connection.
   b) Check voltage and current phases are connected in proper sequence.

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