



TECHNICAL SPECIFICATION

PARAMETER SPECIFICATION

Input Signal	3Ø 3 Wire / 3Ø 4Wire / 1Ø 2Wire
CT Primary	up to 9999A (Programmable)
CT Secondary	5 Amp/1 Amp selectable
PT Primary	100V to 520kV (Programmable)
PT Secondary	100V to 520V (L-L) (Programmable)
True PF Avg. & Per Phase	-1.000 to 1.000
Displacement PF	-1.000 to 1.000
Frequency (Hz)	45.00 - 60.00 Hz
Load hours	9999.59 Hrs/Min.
No load hours	9999.59 Hrs/Min.
On Hour	9999 Hour
RPM	3600 RPM @ 60 Hz & 2 pole

POWER

kW Total	0.000 - 9999 MW
kW Per Phase	0.000 - 9999 MW
kVA Total	0.000 - 9999 MVA
kVA Per Phase	0.000 - 9999 MVA
kVAr Total	0.000 - 9999 MVAR
kVAr Per Phase	0.000 - 9999 MVAR

ENERGY

Import kWh	000.000 - 9999999999 MWh
Export kWh	000.000 - 9999999999 MWh
Net kWh	000.000 - 9999999999 MWh
Total kWh	000.000 - 9999999999 MWh
kVAh Total	000.000 - 9999999999 MVAh
Import kVAh	000.000 - 9999999999 MVAh
Export kVAh	000.000 - 9999999999 MVAh
Lag kVAh	000.000 - 9999999999 MVAh
Lead kVAh	000.000 - 9999999999 MVAh
Total kVAh	000.000 - 9999999999 MVAh

ACCURACY:

Class 0.5 (Standard)

DISPLAY & KEY :

Display	Upper	4 Digit, 4 Line 7 Seg 0.37",LCD
	Lower	9 Digit, 1 Line 7 Seg 0.26",LCD
Key	PROGRAM, VAF, THD%, POWER/PF, ENERGY	

AUXILIARY SUPPLY :

Supply voltage	100 to 300V AC/DC, 50/60Hz
Power consumption (VA RATING)	Approx 3 VA @ 230V AC

Sampling Rate	164 Sample / Cycle
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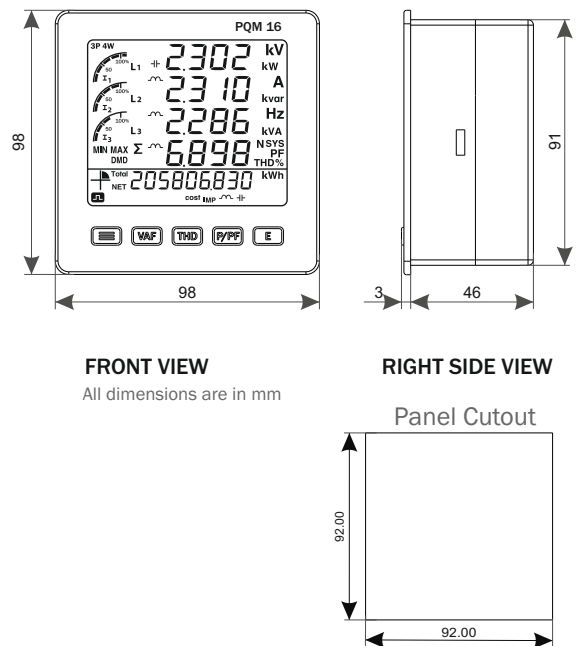
ENVIRONMENT CONDITION:

Operating Temp.	0 °C to 55 °C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (AS Per Request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

DIMENSION :

Size	98 (H) x 98 (W) x 46 (D) mm
Panel Cutout	92 (H) x 92 (W) mm

MECHANICAL INSTALLATION



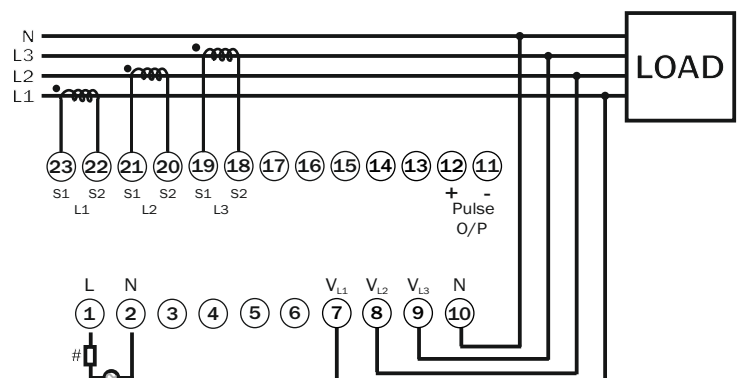
FRONT VIEW

All dimensions are in mm

RIGHT SIDE VIEW

Panel Cutout

TERMINAL CONNECTION



KEY OPERATION

FUNCTION	PRESS KEY
OPERATOR MODE	
To view VAF Pages	
To view THD Page	
To view Power & Power Factor	
To view Energy Page	
To scroll & hold pages	Press For 5Sec
PARAMETER SETTING MODE	
To Set Parameter Value	Press For 5 Sec
To Increment parameter value	
To Decrement parameter value	
To Exit from parameter setting	

Resolution

PT Ratio x CT Ratio	Pulse/kWh
<15	0.01kWh
<150	0.1kWh
<1500	1kWh
<15000	10kWh
<150000	100kWh
≥150000	1000kWh

INSTALLATION GUIDELINES

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminal to facilitate power 'ON' or 'OFF' function. However this mains switch or circuit breaker must be installed at convenient place normally accessible to the operator.
4. Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

MECHANICAL INSTALLATION GUIDELINES

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel with the help of clamp given.
3. The equipment in its installed state must not come in close proximity to any heating source, caustic vapours, oils steam, or other unwanted process byproducts.
4. Use the specified size of crimp terminal (M3 screws) to wire the terminal block. Tightening the screws on the terminal block using the tightening torque of the range of 1 N.m.
5. Do not connect anything to unused terminals.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean soft cloth. Do not use isopropyl alcohol or any other cleaning agent.
3. Fusible resistor must not be replaced by operator.



SAFETY PRECAUTION

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If all the equipment is not handled in a manner specified by the manufacturer, it might impair the protection provided by the equipment.



Read complete instructions prior to installation and operation of the unit.



WARNING : Risk of electric shock.

WARNING GUIDELINES

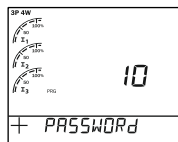


WARNING : Risk of electric shock.

1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
2. To reduce electromagnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
3. Cable used for connection to power source, must have a cross section of 1mm² or greater. These wires should have insulations capacity made of at least 1.5kV.
4. A better anti-noise effect can be expected by using standard power supply cable for the instrument.

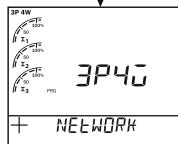
PARAMETER SETTING

Basic Parameter Setting : Network, CT/PT Selection.



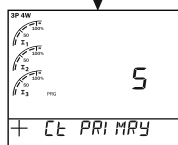
Enter Password 10

Long Press key
To Enter into parameter
Change by & key



Network Selection

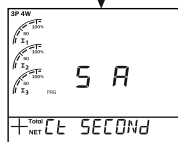
(3P-4W/3P-3W/1P-2W)
Change by & key



CT Primary

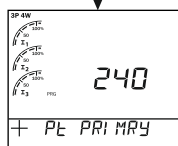
(5 Amp to 9999 Amp
selectable)
Change by & key

Digit Shift by Key



CT Secondary

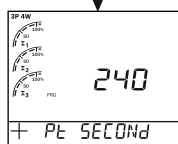
(5 Amp/1 Amp selectable)
Change by & key



PT Primary

(100V to 520kV selectable)
Change by & key

Digit Shift by Key



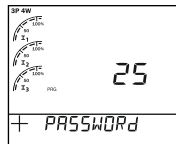
PT Secondary

(100V to 520V selectable)
Change by & key

Digit Shift by Key

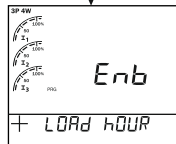
Press key to save & exit from
parameter setting

Advance Parameter Setting : Load Hour %, No Load Hour, RPM, Demand, Pulse Output



Enter Password 25

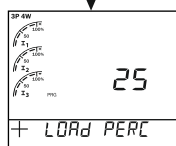
Long Press key
To Enter into parameter
Change by & key



Load Hour

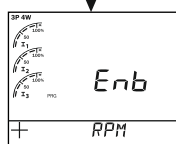
Enable / Disable

Change by & key



Load Hour
Percentage
(5 to 50%)

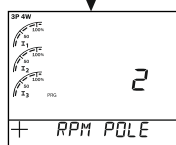
Change by & key



RPM

Enable / Disable

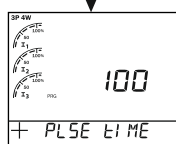
Change by & key



Pole

(2 to 128)

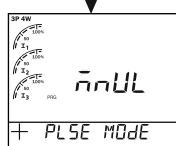
Change by & key



Pulse ON Time

(10 to 500ms)

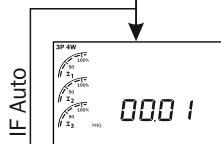
Change by & key



Pulse Mode

Auto / Manual

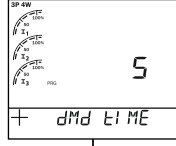
Change by & key



Pulse Out

0.01, 0.1, 1, 10, 100,
1000

Change by & key

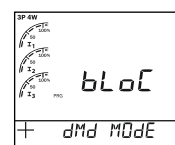


Demand Time

1, 2, 3, 5, 10, 15,
30Minut

Change by & key

Continue



Demand Mode

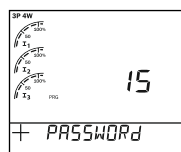
Sliding / Block

Change by & key

Press key to save & exit from
parameter setting

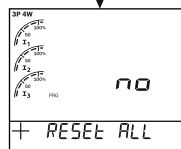
PARAMETER SETTING

Reset Parameter : kWh, kVAh, kvarh, Load Hour, No Load Hour, Max kW, Max kVA, Max kVAR, Max Voltage Amp, Max Demand, Power Interrupt On Hour, Min Voltage

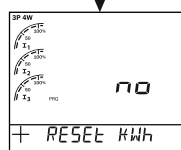


Enter Password 15

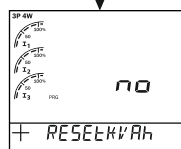
Long Press key
To Enter into parameter
Change by & key



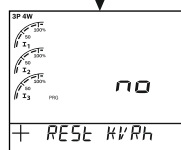
Reset
All Parameter
(Yes/No)
Change by & key



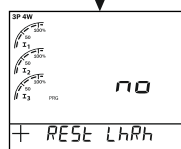
Reset
kWh
(Yes/No)
Change by & key



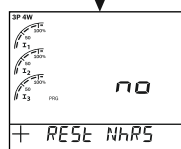
Reset
kVAh
(Yes/No)
Change by & key



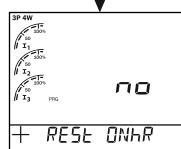
Reset
kvarh
(Yes/No)
Change by & key



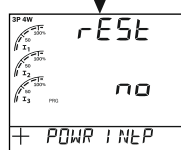
Reset
Load Hour
(Yes/No)
Change by & key



Reset On Hour
No Load Hour
(Yes/No)
Change by & key



Reset On Hour
(Yes/No)
Change by & key



Reset Power Interrupt
(Yes/No)
Change by & key

Continue



Reset Max Demand
(Yes/No)

Change by & key



Reset Max kW
(Yes/No)
Change by & key



Reset Max kVA
(Yes/No)
Change by & key



Reset Max kVAR
(Yes/No)
Change by & key



Reset Max Amp, Voltage
(Yes/No)
Change by & key

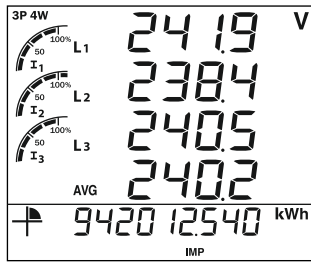


Reset Minimum Voltage
(Yes/No)
Change by & key

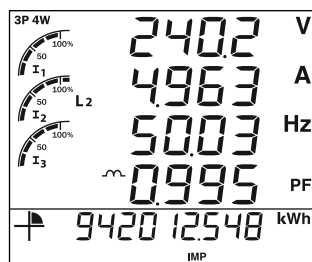
Press key to save & exit from
parameter setting

DISPLAY PAGES for Key

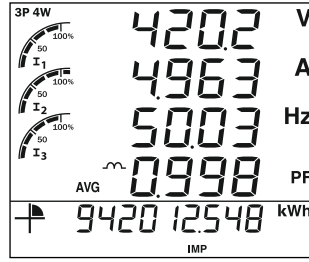
1) Voltage L-N



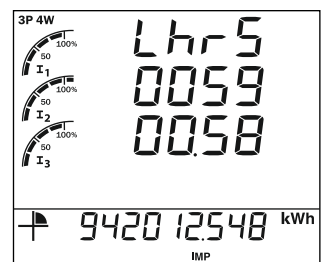
7) L2 Voltage Ampere, PF, Hz



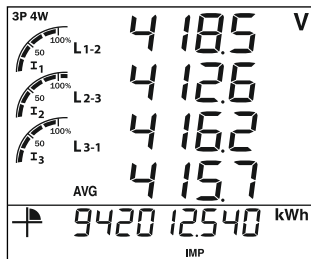
13) AVG V(L-L)-A-PF, Hz



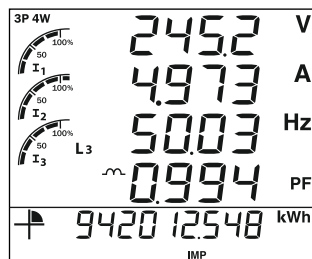
19) Load Hour



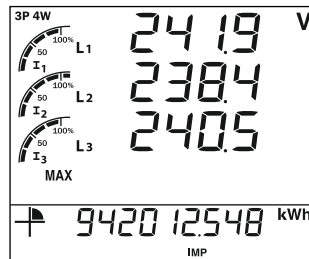
2) Voltage L-L



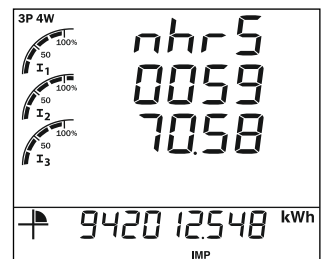
8) L3 Voltage Ampere, PF, Hz



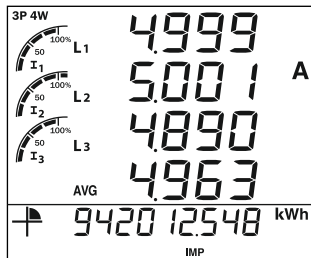
14) Max Voltage L-N



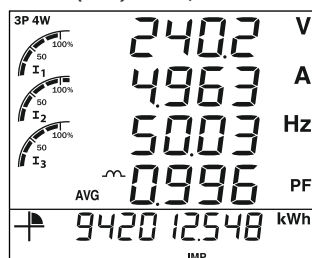
20) No Load Hour



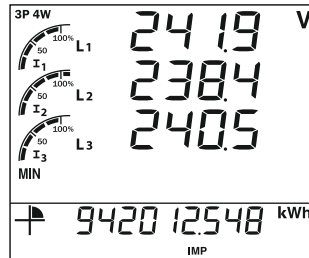
3) Current



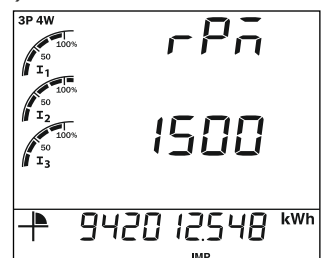
9) AVG V(L-N)-A-PF, Hz



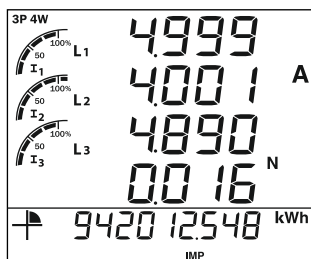
15) Min Voltage L-N



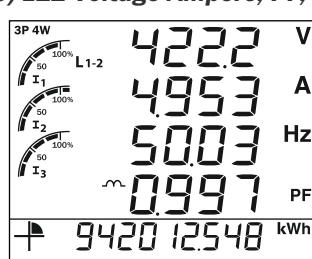
21) RPM



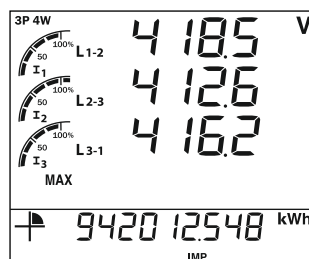
4) Current, Neutral Current



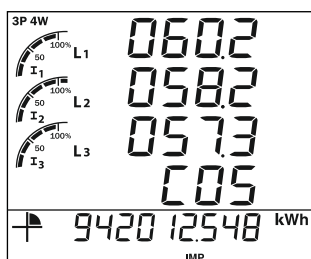
10) L12 Voltage Ampere, PF, Hz



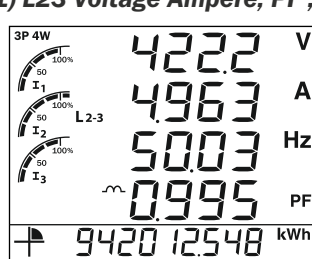
16) Max Voltage L-L



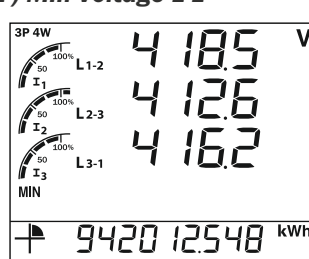
5) Angle



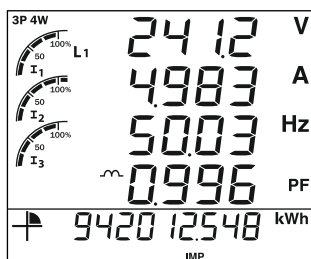
11) L23 Voltage Ampere, PF, Hz



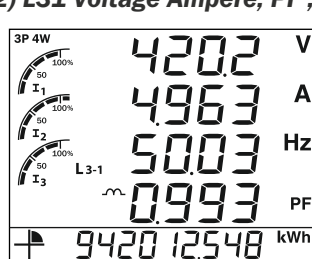
17) Min Voltage L-L



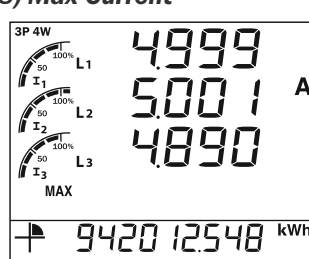
6) L1 Voltage Ampere, PF, Hz



12) L31 Voltage Ampere, PF, Hz

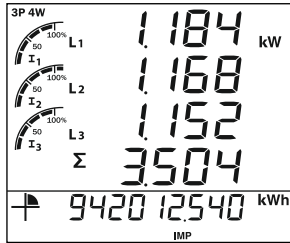


18) Max Current

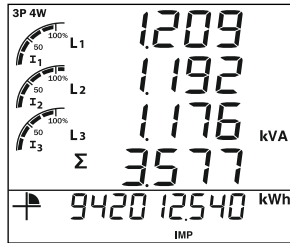


DISPLAY PAGES for Key

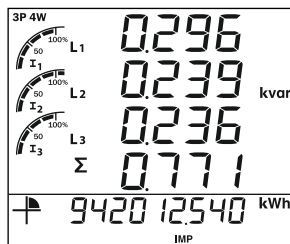
1) kW PER PHASE



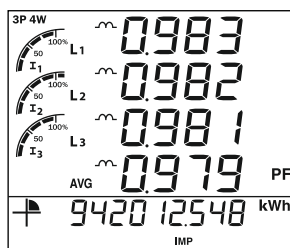
2) kVA PER PHASE



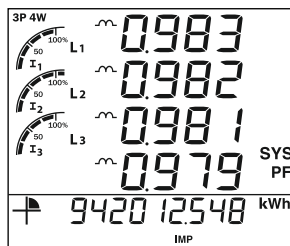
3) kvar PER PHASE



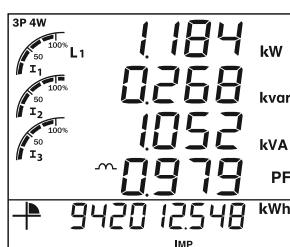
4) True Power Factor



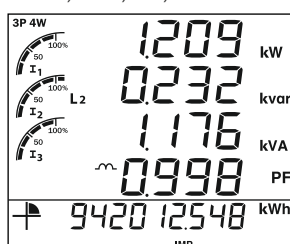
5) Displacement PF



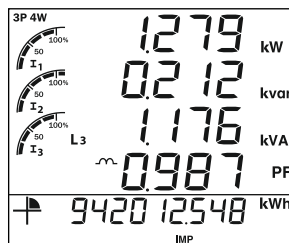
6) L1 KVA, KVar, KW, PF



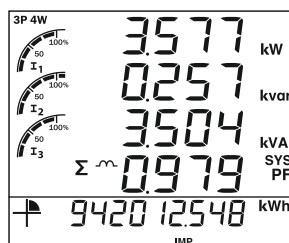
7) L2 KVA, KVar, KW, PF



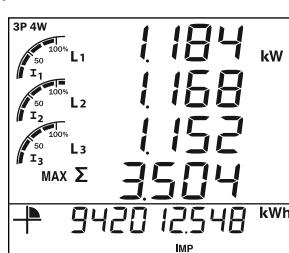
8) L3 KVA, KVar, KW, PF



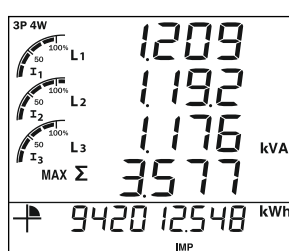
9) Total kW, kVA, kvar, Sys PF



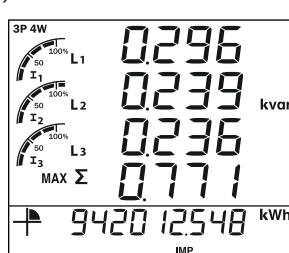
10) Max kW PER PHASE



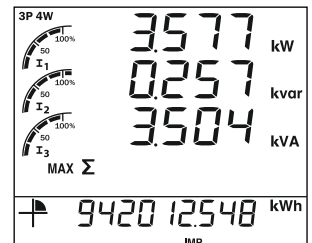
11) Max kVA PER PHASE



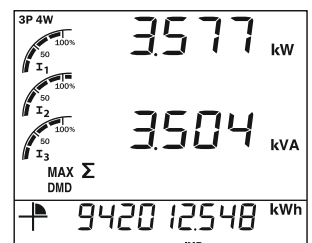
12) Max kvar PER PHASE



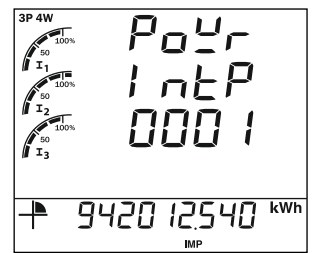
13) Max Total Power kW, kVA, kvar



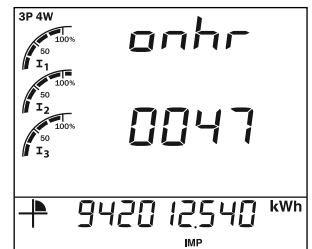
14) Max Demand kW, kVA



15) Power Interrupt

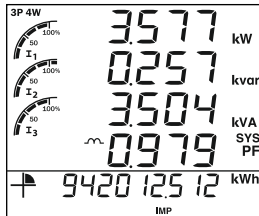


16) On Hour

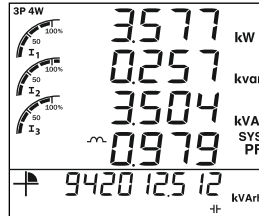


DISPLAY PAGES for Key

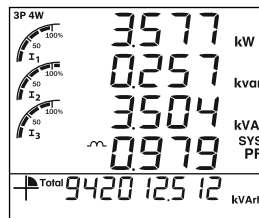
1) Import Kwh



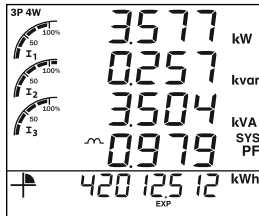
9) Lead kvarh



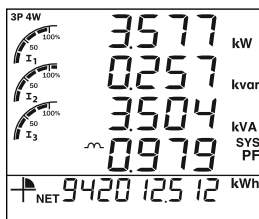
10) Total kvarh



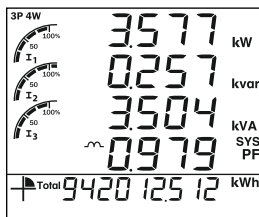
2) Export kwh



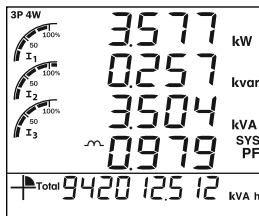
3) NET kwh



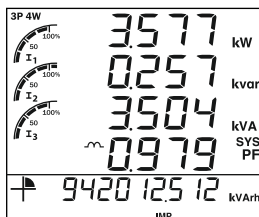
4) Total kwh



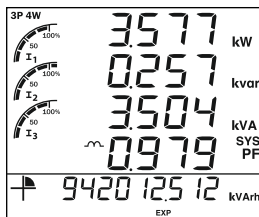
5) Total kvah



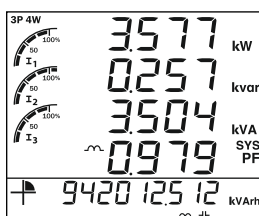
6) Import kvarh



7) Export kvarh

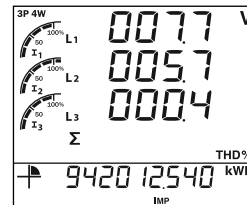


8) Lag kvarh

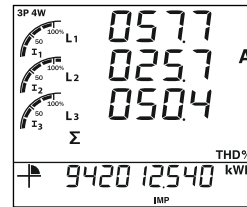


DISPLAY PAGES for Key

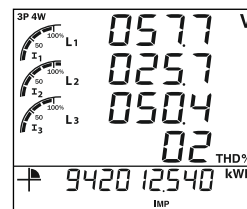
1) Voltage(LN) THD%



2) Current THD%



3) Individual Harmonics Up to 32 Order



Order Change By
Press  Key Up
To 32 Order.