



NSM Solutions
Innovation is our legacy...

Smart Energy Meter

Datasheet



Table of Contents

A) Ordering Information.....	3
B) Specifications.....	4
C) Measured Parameters.....	5
D) Block Diagram Design.....	6
E) Dimensions.....	7
F) Electrical Connections.....	8
F.1) SEM – 1 – 30A – 0 – W.....	8
F.2) SEM – 3 – 40A – 0 – W.....	9
F.3) SEM – 3 – 5A – 0 – W.....	10
G) Box content.....	11

A) Ordering Information

<u>SEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Single/ Three Phase</u>	<u>Current Rating</u>	<u>Load Switch type</u>	<u>Connectivity</u>
	1 – Single Phase 3 – Three Phase	5A – 5 Ampere (Generic: CT, PT Programmable) 30A – 30 Ampere 40A – 40 Ampere	0 – Not available 1 – Potential free Contact of 5A (coming soon...) 2 – Contactor of rated capacity (coming soon...)	W – WiFi G – GPRS (coming soon)

Example –

- **SEM – 3 – 5A – 0 – W**
 - 3 Phase 4 wire
 - 5A current capacity (Programmable Current Transformer Ratio & Potential Transformer ratio)
 - It uses WiFi to connect to cloud server.

Launched Models –

<u>SEM – 1 – 30A – 0 – W</u>	<u>SEM – 3 – 40A – 0 – W</u>	<u>SEM – 3 – 5A – 0 – W</u>
<ul style="list-style-type: none"> • Single Phase • 30 Ampere current • WiFi Connectivity 	<ul style="list-style-type: none"> • Three Phase • 40 Ampere per phase • WiFi Connectivity 	<ul style="list-style-type: none"> • Three Phase • 5 Ampere (CT, PT ratio programmable) • WiFi Connectivity

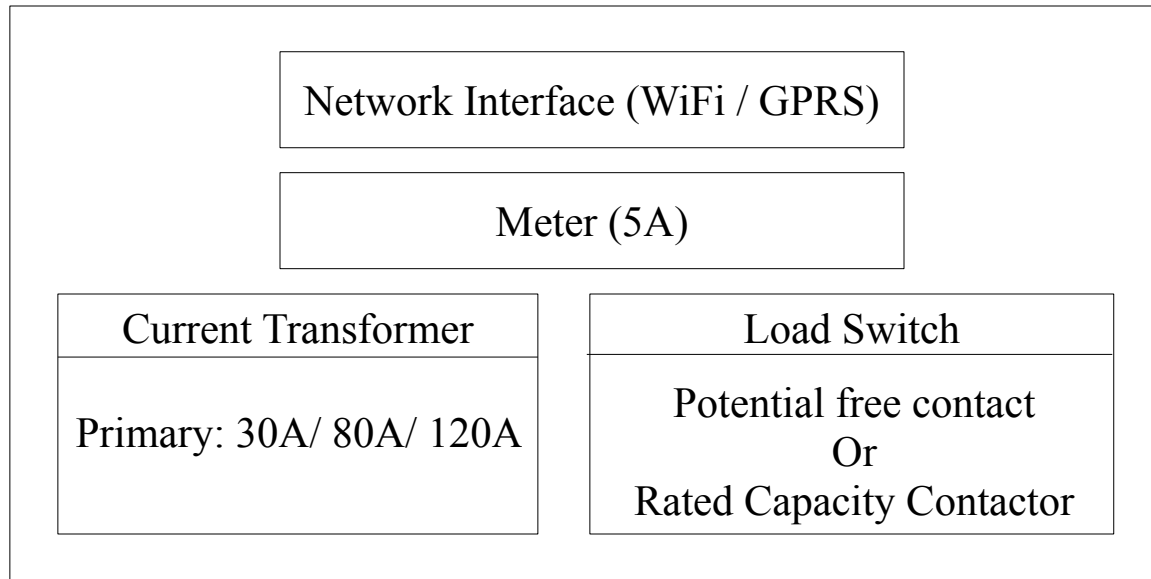
B) Specifications

ACCURACY		
Parameter	Current Rating: 5A	Current Rating: 30A and above
Voltage	+/- 0.5%	+/- 0.5%
Current	+/- 0.5%	+/- 1%
Frequency	+/- 0.5%	+/- 0.5%
Power Factor/ Phase Angle	+/- 3 degree	+/- 3 degree
Active Power	+/- 0.5%	+/- 1%
Reactive Power	+/- 0.5%	+/- 1%
Apparent Power	+/- 0.5%	+/- 1%
Active Energy	+/- 1%	+/- 2%
Reactive Energy	+/- 2%	+/- 3%
Apparent Energy	+/- 1%	+/- 2%
INPUT RANGE		
Voltage	85V to 290V (L-N)	
Current	0-110% CT Primary – 1 to 9999	0 – 110%
GENERAL		
Display Update Rate	1 sec	
Cloud Upload Rate	1 min	
Internal Storage	45 days	45 days
Load Switch (if applicable)	Potential free contact of 5A	Rated Capacity Contactor
Enclosure	IP65 (Avoid direct sunlight)	
ENVIRONMENTAL		
Operating Temperature	-10 to +55 degree Celsius	
Storage Temperature	-20 to +65 degree Celsius	
Relative Humidity	0 to 90% (non condensing)	

C) Measured Parameters

PARAMETER	SEM – 1 – x – x – x	SEM – 3 – x – x – x
R Phase Voltage (V)	YES	YES
Y Phase Voltage (V)	NO	YES
B Phase Voltage (V)	NO	YES
R Phase Current (A)	YES	YES
Y Phase Current (A)	NO	YES
B Phase Current (A)	NO	YES
R Phase Active Power (Watt)	YES	YES
Y Phase Active Power (Watt)	NO	YES
B Phase Active Power (Watt)	NO	YES
R Phase Reactive Power (RVA)	YES	YES
Y Phase Reactive Power (RVA)	NO	YES
B Phase Reactive Power (RVA)	NO	YES
R Phase Apparent Power (VA)	YES	YES
Y Phase Apparent Power (VA)	NO	YES
B Phase Apparent Power (VA)	NO	YES
R Phase Power Factor	YES	YES
Y Phase Power Factor	NO	YES
B Phase Power Factor	NO	YES
Active Energy (KWH)	YES	YES
Reactive Energy Lag (RKVA Lag)	YES	YES
Reactive Energy Lead (RKVA Lead)	YES	YES
Apparent Energy (KVAH)	YES	YES
Active Power Max Demand (KW MD)	YES	YES
Apparent Power Max Demand (KVA MD)	YES	YES

D) Block Diagram Design



Depending on the part number, Load switch can be either absent or it can be there as “Potential Free” contact or it can be Contactor of rated capacity.

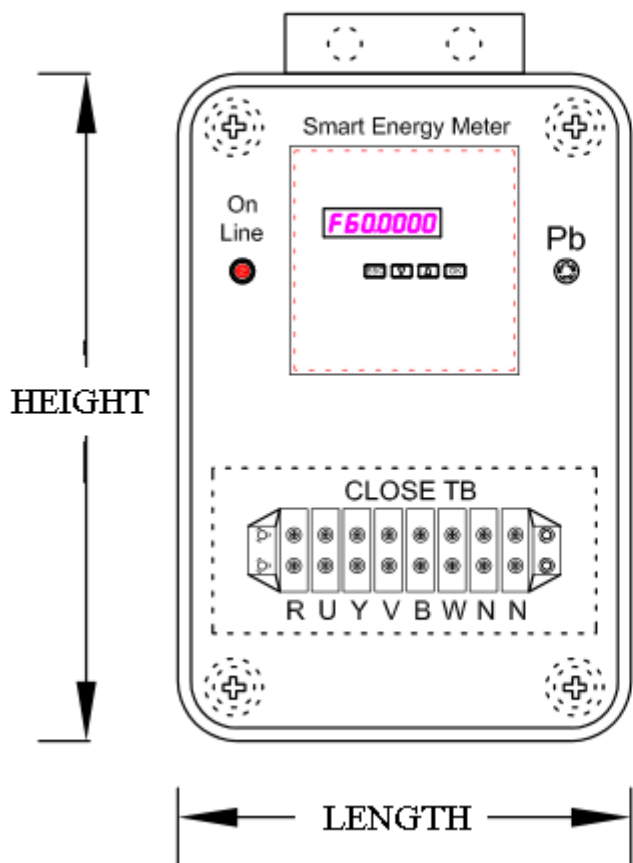
In case of Meter of rated capacity of 5A, Current Transformer is not included in the meter. However, You can connect your external Current Transformer and program its ratio in our meter.

In case of Meters of current capacity 30A or above, Current Transformer is included in the meter.

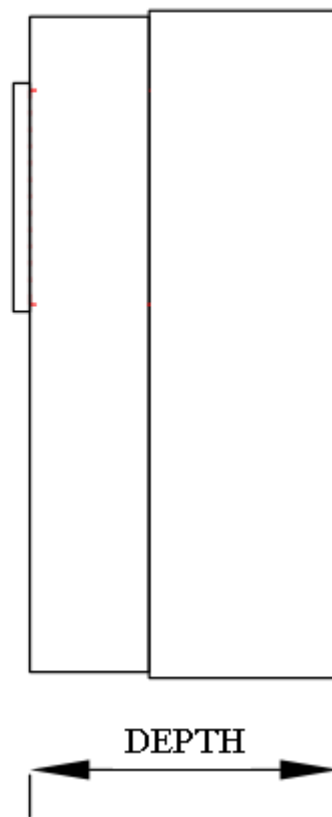
E) Dimensions

MODEL	LENGTH (mm)	HEIGHT (mm)	DEPTH (mm)
SEM – 1 – 30A – 0 – W	190	280	130
SEM – 3 – 40A – 0 – W	190	280	130
SEM – 3 – 5A – 0 – W	190	280	130

FRONT VIEW

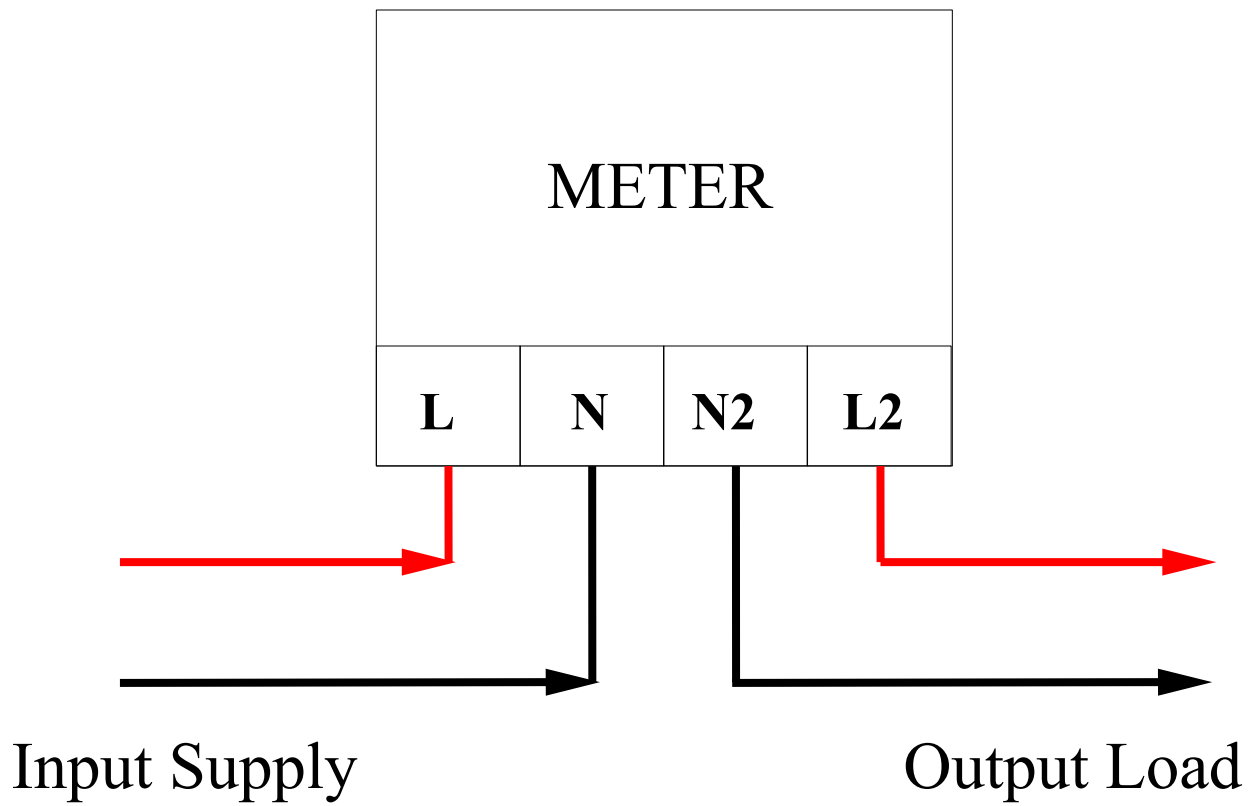


R.H.S. VIEW

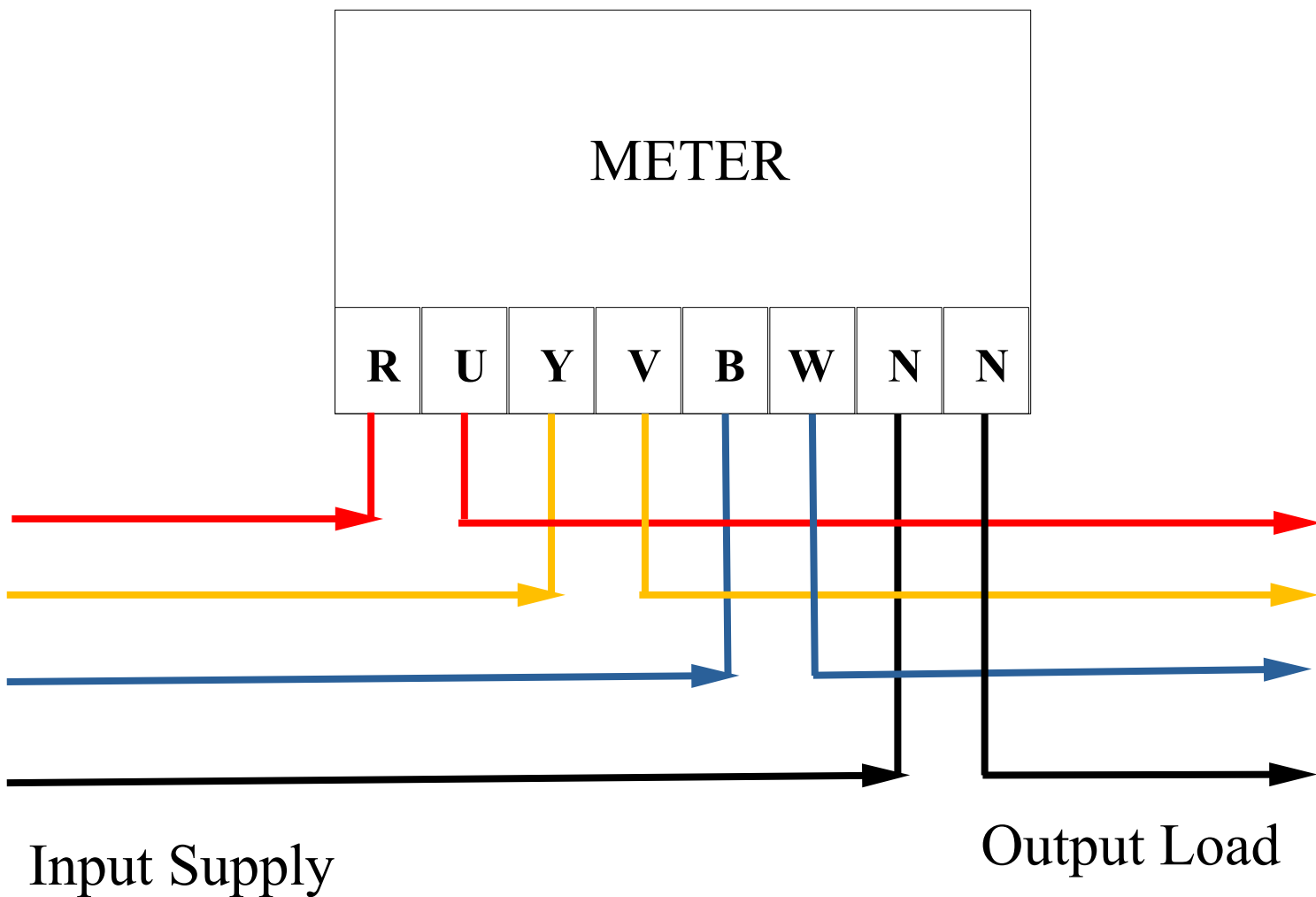


F) Electrical Connections

F.1) SEM – 1 – 30A – 0 – W



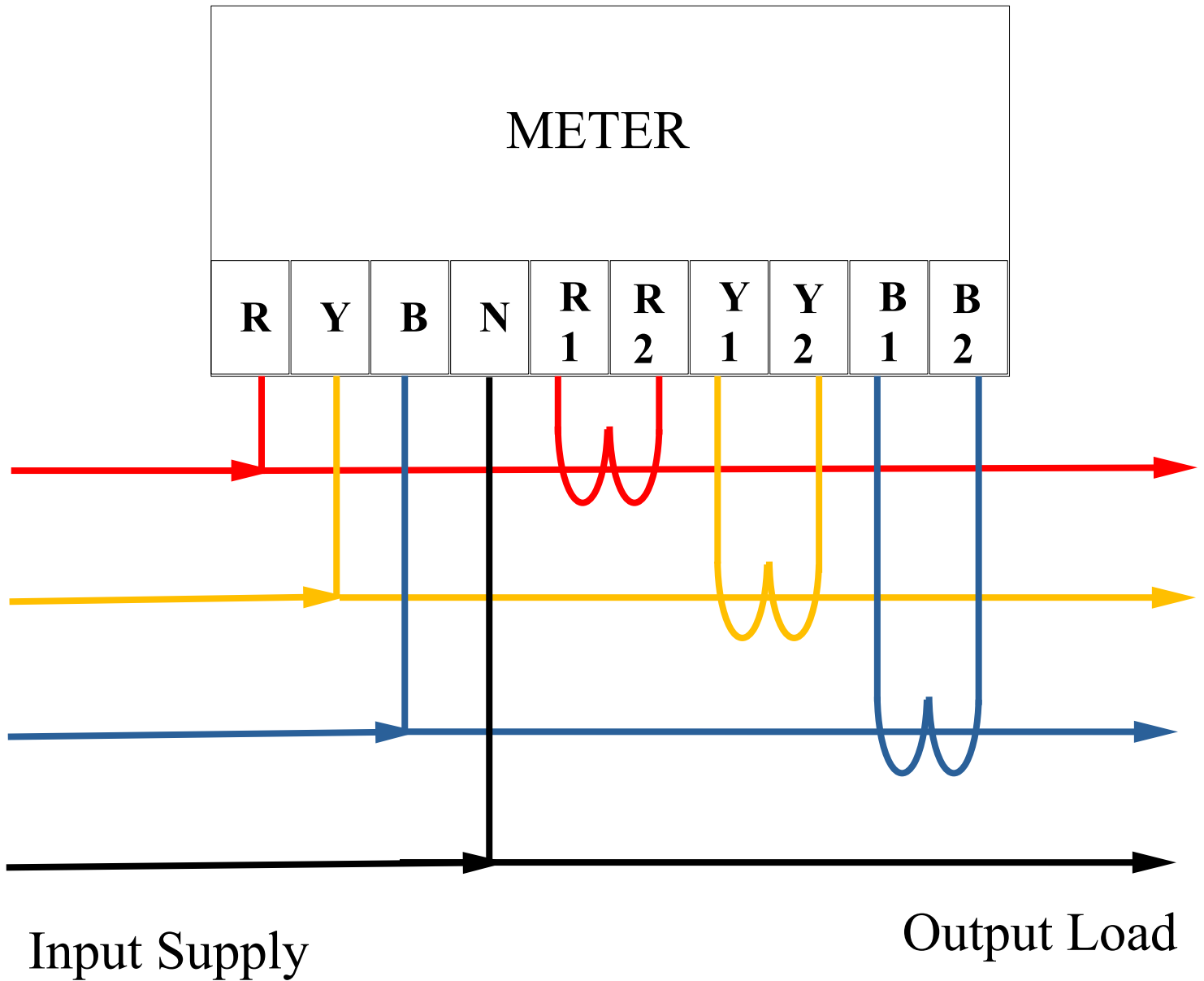
F.2) SEM – 3 – 40A – 0 – W



F.3) SEM – 3 – 5A – 0 – W

CT Primary: Programmable in Meter

CT Secondary: 5A



G) Box content

- Smart Energy Meter
- Calibration Certificate
- Test Report
- Meter ID and Secret Access Password
- Warranty Certificate