



ION9000  
(product/2)



ION7650  
(product/7)

## Features:

### Form factor:

DIN mount transducer with optional remote display	•	•
Panel mount with integral display	—	•

### Accuracy:

Current accuracy	0.001	0.001
Voltage accuracy	0.001	0.001
Power accuracy	0.001	0.002
Samples per cycle or sample frequency	1024	1024

### Control power:

AC	•	•
DC	•	•
Low Voltage DC	—	•

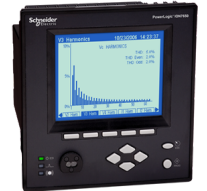
### Current sensor type:

CT	•	•
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### Input metering capability:

Number of measurement channels	5	5
Direct voltage connection (max)	600V	600V
Wiring self-test	•	•

### Instantaneous values:

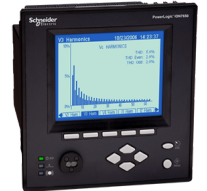


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(product/2)

ION7650  
(product/7)

## Features:

Current (I) total and per phase	•	•
Voltage (V) total and per phase	•	•
Frequency (F)	•	•
Active Power (kW) total and per phase	•	•
Reactive Power (kVAR) total and per phase	•	•
Apparent Power (kVA) total and per phase	•	•
Power factor (PF) total and per phase	•	•
<b>Energy values:</b>		
Active Energy (kWh) total and per phase	•	•
Reactive Energy (kVARh) total and per phase	•	•
Apparent Energy (kVAh) total and per phase	•	•
Settable accumulation modes	•	•
<b>Demand values:</b>		
Current demand (Id) present and max values	•	•
Active Power demand (kWd) present and max values	•	•
Reactive Power demand (kVARd) present and max values	•	•
Apparent Power demand (kVAd) present and max values	•	•
Predicted Power demand, Active (kWd), Reactive (kVARd), and Apparent (kVAd)	•	•
Synchronization of the demand measurement window	•	•
Demand modes: Fixed block, sliding, rolling, etc.	•	•
<b>Power quality measurements:</b>		

ION9000  
(product/2)ION7650  
(product/7)

## Features:

Individual harmonics - Via front panel	63	63
Individual harmonics - Via software	511	511
Waveform capture	•	•
Transient capture	20 $\mu$ S	20 $\mu$ S
Detection of voltage sags and swells	•	•
Disturbance direction detection	•	•
IEC 61000-4-30 class A /S	A	—
IEC 61000-4-15 (Flicker)	•	•
High speed data recording	Half-cycle	20 mS
EN50160 compliance reporting	•	•
Programmable (logic and math functions)	•	•
Harmonic distortion - Current & voltage	—	•
<b>Data recording:</b>		
Onboard Memory (in Mbytes)	2000	10
Revenue logs	•	•
Min/max of instantaneous values	•	•
Data logs	•	•
Event logs	•	•
Trending/forecasting	•	•
Alarms	•	•
Alarm setpoint learning	•	•



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(product/2)ION7650  
(product/7)

## Features:

Alarm notification via e-Mail	•	•
Sequence of event recording	•	•
Historical logs	•	•
Harmonics logs	•	•
Sag/swell logs	•	•
Data update rate	1/2 cycle	1/2 cycle
Transient logs	•	•
<b>Time stamping:</b>		
Time stamp resolution	1 mS	1 mS
Time synchronization - IRIG-B	•	—
Time synchronization - PTP	•	—
<b>Inputs/Outputs (I/O):</b>		
Pulse output (front panel LED)	2	1
Base digital inputs DI	8	8
Base digital outputs DO solid state	4	4
Base digital outputs DO relay	2	3
Option digital inputs DI (max)	24	8
Option digital outputs DO relay (max)	8	—
Option analog inputs AI (max)	16	4
Option analog outputs AO (max)	8	4
<b>Communication ports:</b>		



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(product/2)

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# Features:

ANSI 12.18 Type II optical port	•	•
USB	•	—
RS485 2 wire	2	1
Ethernet 10/100BaseTx	2	1
IRIG-B port	•	—
RS 485 / RS 232 port	—	1
Internal modem	—	•
100Base-FX	—	•
<b>Serial protocols:</b>		
Modbus RTU	•	•
Modbus ASCII	•	•
ION	•	•
DNP 3	•	•
<b>Ethernet protocols:</b>		
Modbus TCP/IP	•	•
ION TCP	•	•
DNP 3 TCP	•	•
IEC61850	•	•
COMTRADE IEC 60255-24	•	•
HTTP web server	•	•
SNMP	•	•



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# Features:

SMTP email	•	•
FTP file transfer	•	•
NTP time synchronization	•	•
SNTP time synchronization	•	•
PTP time synchronization	•	—
XML	—	•
<b>Gateway function:</b>		
Ethernet Modbus gateway	•	•