S711 Series

MULTIFUNCTION PANEL POWER METERS

Highlights

- **DIN 96x96 compact version, only 4 cm depth**

- **Large backlit LCD screen with big characters**

- **Plug in terminals, direct Rogowski connection, LAN Connection with RJ45 and embedded web server page**

- **Programming , Reading and Updates with Modbus - TCP Ethernet and RS485 Modbus RTU port**

- **Maximum measurable voltage: 600 Vac**

- **Version for 1 or 5A CT and for direct connection up to 6A or 80A**

S711 Series Power Meters Series are characterized by compact front dimensions (96x96 mm) for only 39 mm depth. The S711 models provide bidirectional measurement of four quadrants for all energies and powers and in general the measurement of main parameters required for an effective analysis of consumption.

The Rogowski versions (S711EROG) are available in kit with length sensors 30, 45 and 70 cm.

The ENERGY PLUS versions (S711E, S711EROG) allow recording up to 8 MB and 24 selectable parameters between the instantaneous variables for recording MIN / MED / MAX.

The S711 Series is available with models supporting communications in ModBUS RTU / ASCII via RS485 port or ModBUS TCP-IP via port Ethernet. The panel meters can also be configured remotely with ENERGY POWER Software PACK or via Web Server

100% Made & Designed in Italy

SENECA

www.seneca.it

S711 Series
MULTIFUNCTION PANEL POWER METERS

MODALITA' DI INSERZIONE
- Voltage measurement up to 600 V, TA1/5 A currents or Rogowski Coils
- Energies and Powers bidirectional measurement all over 4 quadrants

POWER SUPPLY
- Self-Powered models
- Auxiliary supply models

DIGITAL I/OS
- #1/2 alarm/pulse output
- #1 average values calculation
- (DMD))

DATA STORAGE
- Up to 24 selectable parameters among instant variables for MIN/Average/Max values
- Recording Up to 8 MB memory for data recording

DIMENSION
- Front Panel: 96x96 mm (39 mm
- (depth)
- Backlightened LCD display,78x61 mm

SETTINGS
SETTINGS
ENERGY POWER PACK (software)
- Web Server
- Front Key buttons

OPTICAL COMMUNICATION
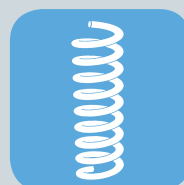- ModbBUS RTU/ASCII (RS85 port)
- ModBUS TCP-IP (Ethernet port)

ENERGY COUNTERS AND MEASUREMENT
- Total counters
- Inductive / capacitive independent counters
- Bidirectional measurement on 4 quadrants for all powers and energies
- Energy efficiency parameters measurement

THD & HARMONICS
- Current / Voltage THD Values
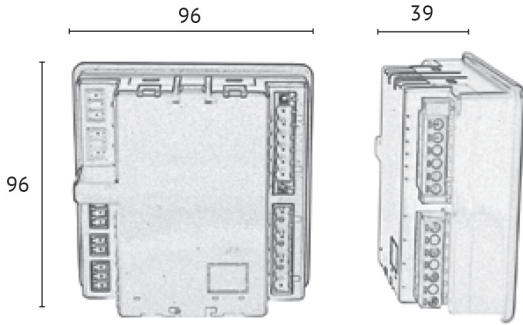- Current / Voltage THD Values uo tp 15th harmonics

CURRENT INPUT
- Version for 1 or 5A CT, for direct connection up to 6A or 80A
- 3 current measurement scales for Rogowski models

	S711B	S711E	S711EROG
	Three-phase Power Meter BASIC version, DIN 96x96 mm	Three-phase Power Meter ENERGY Plus version, DIN 96x96 mm	Threee-phase power meter kit including nr.1 S711B + nr. 3 Rogowski coils

GENERAL DATA

Power Supply	230 Vac / 115 vac (RS485 models) 85..265 Vac, Aux, Cat II (auxiliary powered models)	230 Vac / 115 vac (RS485 models) 85..265 Vac, Aux, Cat II (auxiliary powered models)	230 Vac / 115 vac (RS485 models) 85..265 Vac, Aux, Cat II (auxiliary powered models)
Display	LCD, backlighted, 43x29 mm, 3 rows, 4 digit+symbols	LCD, backlighted, 43x29 mm, 3 rows, 4 digit+symbols	LCD, backlighted, 43x29 mm, 3 rows, 4 digit+symbols
Keyboard	3 front button, 1 protected button	3 front button, 1 protected button	3 front button, 1 protected button
Operating temperature	-25..+55°C	-25..+55°C	-25..+55°C
Sinusoidal vibration amplitude	50 Hz ± 0.075 mm	50 Hz ± 0.075 mm	50 Hz ± 0.075 mm
DMD calculation	DI or window synchronization	DI or window synchronization	DI or window synchronization
Memory (instrument with communicatio port)	1 MB	8 MB	8 MB
Recordings	AGV values for active and reactive powers	Min/ Avg/Max values for all powers, selectable	Min/ Avg/Max values for all powers, selectable
THD & Armoniche	Voltage and current THD values	Voltage and current THD values Voltage and current up to 15th	Voltage and current THD values Voltage and current up to 15th
Apparent Energy Counters	Total counters or separated inductive/capacitive counters	Total counters or separated inductive/capacitive counters	Total counters or separated inductive/capacitive counters
Wiring modes	Three-phase, 4 wires, 3 currents Three-phase, 4 wires, 2 currents (aux models)	Three-phase, 4 wires, 3 currents Three-phase, 4 wires, 2 currents (aux models)	Three-phase, 4 wires, 3 currents Three-phase, 4 wires, 2 currents (aux models)
Front protection degree	IP51	IP51	IP51
Terminals protection degree	IP20	IP20	IP20
Measuring termiinal wire diameter	2,5 mm² / 14 AWG	1,5.. 6 mm² (modelli con TA)	1,5.. 6 mm² (modelli con TA)
I/O/Supply/COM terminal wire diamater	1,5.mm² / 16 AWG	1,5.. 35 mm² (modelli con inserzione 80A)	1,5.. 35 mm² (modelli con inserzione 80A)
Dimension (lxhxw)	96x96x39 mm	96x96x39 mm	96x96x39 mm
Weight	310 g	436 g	436 g

ACCURACY

Voltage	±0,2% reading 10% FS...FS (FS=full scale value)	±0,2% reading 10% FS...FS (FS=full scale value)	±0,2% reading 10% FS...FS (FS=full scale value)
Current	±0,4% reading in 5% FS...FS	±0,4% reading in 5% FS...FS	±0,4% reading in 5% FS...FS
Power	±0,5% reading ±0,1% FS (PF=1)	±0,5% reading ±0,1% FS (PF=1)	±0,5% reading ±0,1% FS (PF=1)
Frequency	±0,1% reading ±1 digit in 45...65 Hz	±0,1% reading ±1 digit in 45...65 Hz	±0,1% reading ±1 digit in 45...65 Hz
Active Energy	Class 1 according to IEC/EN 62053-21	Class 1 according to IEC/EN 62053-21	Class 1 according to IEC/EN 62053-21
Reactive Energy	Class 2 according to IEC/EN 62053-23	Class 2 according to IEC/EN 62053-23	Class 2 according to IEC/EN 62053-23

COMMUNICATION

Serial Port	RS485 optoisolated, 300..57.600 bps (optional)	RS485 optoisolated, 300..57.600 bps	RS485 optoisolated, 300..57.600 bps
Ethernet Port		10/100 Mbps, RJ45 connector	10/100 Mbps, RJ45 connector
Supported protocols	ModBUS RTU/ASCII (RS485)	ModBUS RTU/ASCII (RS485); http, Ntp, Dhcp, ModBUS TCP-IP (Ethernet)	ModBUS RTU/ASCII (RS485); http, Ntp, Dhcp, ModBUS TCP-IP (Ethernet)

INGRESSI DI MISURA

Voltage Input	Max voltage: 600 Vac max L-L 20/35 VCA (* VT ratio, using VT) Input impedance: ›1,3 MOhm Frequency: 45 -65 Hz	Max voltage: 600 Vac max L-L 20/35 VCA (* VT ratio, using VT) Input impedance: ›1,3 MOhm Frequency: 45 -65 Hz	Max voltage: 600 Vac max L-L 20/35 VCA (* VT ratio, using VT) Input impedance: ›1,3 MOhm Frequency: 45 -65 Hz
Current Input	Max nominal value: 7 A Starting current (Ist): 2 mA CT load: max 0,15 VA per phase Min FFT calculation value: 100 mA * CT ratio	Ingresso da TA Valore max: 7 A Corrente di avviamento (Ist): 2 mA Carico TA: max 0,15 VA per fase Valore min per il calcolo FFT: 100 mA * rapporto TA	Nr 3 selectable scales: 500 / 4.000 / 20.000 A by Rogowski Coils

I/O

Digital Input	Nr1 optoisolated channel for DMD sinchronization, range 80..265 Vac/dc	Nr1 optoisolated channel for DMD sinchronization, range 80..265 Vac/dc	Nr1 optoisolated channel for DMD sinchronization, range 80..265 Vac/dc
Digital Output	Nr 2 optoisolated passive channels for alarms/pulses, NPN/PNP, max 27 Vcc - 27 mA, pulse lenght 50 ± 2 ms, output reaction time 1 s	Nr 2 optoisolated passive channels for alarms/pulses, NPN/PNP, max 27 Vcc - 27 mA, pulse lenght 50 ± 2 ms, output reaction time 1 s	Nr 2 optoisolated passive channels for alarms/pulses, NPN/PNP, max 27 Vcc - 27 mA, pulse lenght 50 ± 2 ms, output reaction time 1 s
Analog Output		Nr 1 optoisolated active channel 0/4..20 mAcc, max load 500 W (model S711E6MODAO)	Nr 1 optoisolated active channel 0/4..20 mAcc, max load 500 W (model S711EROGMOD30AO)

PROGRAMMING

Configuration systems	Front key buttons Energy Power Pack software (ModBUS/Ethernet models) Webserver (Ethernet models)	Front key buttons Energy Power Pack software (ModBUS/Ethernet models) Webserver (Ethernet models)	Front key buttons Energy Power Pack software (ModBUS/Ethernet models) Webserver (Ethernet models)

STANDARD

Certifications	CE	CE	CE
Directives	2006/95/CE, 2004/108/CE	2006/95/CE, 2004/108/CE	2006/95/CE, 2004/108/CE
Norms	EN 61010-1, EN 61010-2-030, EN 61326-1, EN 55011, EN 61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11, EN61000-6-2	EN 61010-1, EN 61010-2-030, EN 61326-1, EN 55011, EN 61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11, EN61000-6-2	EN 61010-1, EN 61010-2-030, EN 61326-1, EN 55011, EN 61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11, EN61000-6-2

BLUNDED EQUIPMENT

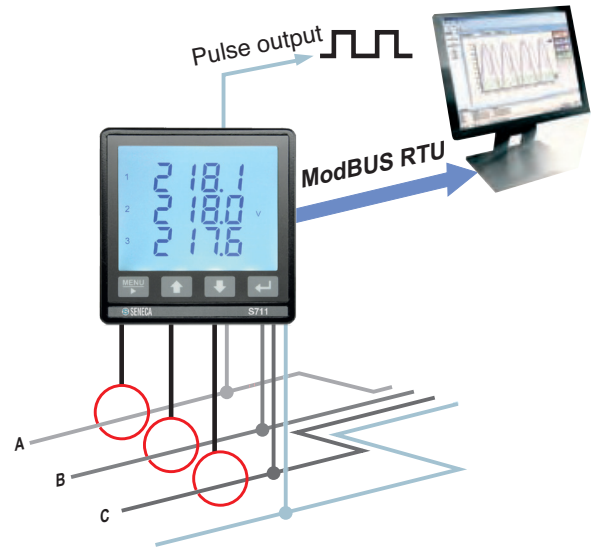|			
Rogowski Coils	-	-	Nr 3 Rogoski Coils RC150 30, 45, 70 cm (10/14/22 cm internal diameter), 3 m lenght cable

Technical data rand diagrams reported in this document are proximative and not binding.

MULTIFUNCTION PANEL POWER METERS

DIMENSION

96

96

39

DIMENSION APPLICATION NOTE

Pulse output

ModBUS RTU

218.1
218.0
217.6

A
B
C

ORDER CODE	
Code	**Deescription**
S711B6MOD	LCD 96x96 BASIC Power Meter, TA1/5A-RS485 Modbus,1MB mem. log.,1 DI 2 DO
S711E6MOD	LCD 96x96 Energy PLUS Power Meter, TA1/5A-RS485 Modbus,8MB log.,1 DI 2 DO, harmonics
S711E6MODAO	LCD 96x96 Energy PLUS Power Meter, TA1/5A-RS485 Modbus,8MB log.,1 DI 2 DO 1AO, harmonics
S711E6ETH	LCD 96x96 Energy PLUS Power Meter, TA1/5A-Ethernet,8MB log, 1 DI 2 DO, harmonics
S711EROGMOD30	LCD 96x96 Energy PLUS Power Meter Kit, RS485 Modbus,8MB log.,1 DI 2 DO,Arm.+3 Rogowski RC150 L= 30cm Øint.9,5cm
S711EROGMOD45	LCD 96x96 Energy PLUS Power Meter Kit, RS485 Modbus,8MB log.,1 DI 2 DO, harmonics, 3 Rogowski RC150 L= 45cm Øint.14cm
S711EROGMOD70	LCD 96x96 Energy PLUS Power Meter Kit, RS485 Modbus,8MB log.,1 DI 2 DO,Arm.+3 Rogowski RC150 L= 70cm Øint.22cm
S711EROGMOD30AO	LCD 96x96 Energy PLUS RS485 Modbus,8MB log.,1 DI 2 DO 1 AO, harmonics, 3 Rogowski RC150 L= 30cm Øint.9,5cm
S711EROGMOD45AO	LCD 96x96 Energy PLUS Power Meter Kit, RS485 Modbus,8MB log.,1 DI 2 DO 1 AO, harmonics, 3 Rogowski RC150 L= 45cm Øint.14cm
S711EROGMOD70AO	LCD 96x96 Energy PLUS RS485 Modbus,8MB log.,1 DI 2 DO 1 AO, harmonics, 3 Rogowski RC150 L= 70cm Øint.22cm
S711EROGETH30	LCD 96x96 Energy PLUS Power Meter Kit , Ethernet,8MB log.,1 DI 2 DO, harmonics, 3 Rogowski RC150 L= 30 cm Øint. 9,5 cm
S711EROGETH45	LCD 96x96 Energy PLUS Power Meter Kit , Ethernet,8MB log.,1 DI 2 DO, harmonics, 3 Rogowski RC150 L= 45 cm Øint. 14cm
ROGOWSKI COILS	
RC150-025-100-3M	Rogowski Coil L=25cm Øint.8cm,100mV/1KA-50Hz,cable L=3mt.
RC150-035-100-3M	Rogowski Coil L=35cm Øint.11cm,100mV/1KA-50Hz,cable L=3mt.
RC150-040-100-3M	Rogowski Coil L=40cm Øint.12cm,100mV/1KA-50Hz,cable L=3mt.
RC150-060-100-3M	Rogowski Coil L=60cm Øint.19cm,100mV/1KA-50Hz,cable L=3mt.
RC150-090-100-3M	Rogowski Coil L=90cm Øint.28cm,100mV/1KA-50Hz,cable L=3mt.
RC150-120-100-3M	Rogowski Coil L=120cm Øint.38cm,100mV/1KA-50Hz,cable L=3mt.
RC150-180-100-3M	Rogowski Coil L=180cm Øint.57cm,100mV/1KA-50Hz,cable L=3mt.
RC150-CAVEX-ROG1	Cable extension beyond 3 mt. for Rogwski Coil connection L.1
RC150-CAVEX-ROG2	Cable extension beyond 3 mt. for Rogwski Coil connection L.2
RC150-CAVEX-ROG3	Cable extension beyond 3 mt. for Rogwski Coil connection L.3
RC190-030-333-3M	Rogowski Coil L=30cm Øint.9,5cm,333mV/1KA-50H,cable L=3mt.
RC190-035-333-3M	Rogowski Coil L=35cm Øint.11cm,333mV/1KA-50H,cable L=3mt.
RC190-060-333-3M	Rogowski Coil L=60cm Øint.19cm,333mV/1KA-50H,cable L=3mt.
RC190-090-333-3M	Rogowski Coil L=90cm Øint.28cm,333mV/1KA-50H,cable L=3mt.
RC190-120-333-3M	Rogowski Coil L=120cm Øint.38cm,333mV/1KA-50H,cable L=3mt.
RC190-180-333-3M	Rogowski Coil L=180cm Øint.57cm,333mV/1KA-50H,cable L=3mt.
ACCESSORIES	
S107USB	RS485/USB serial converter, portable version