

Intelligent String Management

The Satcon™ Smart Subcombiner (SSC) improves solar array management by sensing current at the string level. Its comprehensive diagnostic capabilities identify string-level connection and performance issues with remarkable speed and accuracy.

Comprehensive String-Level Sensing

Accommodates up to 12 PV strings

Features a 16A fuse to handle up to 10 amps per string

Identifies array connection and performance issues rapidly

Features multisensor temperature monitoring

Transmits data to the PV inverter using an RS-485 Modbus connection

Finger-Safe Fuse Holders

Positive for grounded systems (UL)

Positive and negative for floating systems (CE)

Efficient Operation

Receives power from the PV array—no external power supply is required

Consumes very little power (<20W)

Operates over a broad range of temperatures (-20° C to +55° C)

Compatibility

All PowerGate[®] Plus PV inverters

Any RS-485-compatible PV inverter

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Satcon Smart Subcombiner (SSC)

ELECTRICAL	SSC-12-10-CE	SSC-12-10-ULN	SSC-12-10-ULP
Max DC voltage	1000V	600V	600V
Max DC output current	120A		
Max string current per channel	10A		
Max number of strings	12		
Max fuse size	16A, 1000 VDC, 10 x 38 mm		
EXTERNAL CONNECTIONS			
High power conductor connection	16 mm (5/8") bolt connection to bus bar		
Conductor size range	35 – 70 mm ² (No. 2– No. 2/0 AWG)*		
String connection range	4 – 16 mm ² (No. 10 – No. 6 AWG)		
Suggested temperature sensor cable	USE-2 No.18 AWG, 1 pair stranded, shielded PVC direct burial cable (or equivalent)**		
Suggested signal cable (EIA-485)	USE-2 No.18 AWG, 2 pair stranded, shielded PVC direct burial cable (or equivalent)***†		
DIMENSIONS			
Width x Height x Depth	439 x 559 x 284 mm (17.3" x 22" x 11.2")		
Weight (approx.)	15 kg (33 lbs)		
INTERFACES			
Communication	EIA-485, baud rate 9600, half duplex		
Monitored string current	0-10A		
Monitored internal temperature	-20 °C to 85 °C +/- 5%		
Monitored external temperature	-20 °C to 85 °C +/- 5%		
Temperature			
Operating Ambient Temperature Range	-20 °C to +55 °C		
Storage Temperature Range	-40 °C to +85 °C		
STANDARDS			
EMC	EN61000-6-2 EN61000-6-4	N/A	N/A
UL	No	UL 1741	UL 1741
CE conformity	Yes	No	No
RoHS conformity	Yes		
ENCLOSURE			
Outdoor installation	Yes		
UV resistance	Yes		
Material	Fiberglass reinforced polyester		
Color	RAL 7035, Light Grey		
IPC protection	IP66	NEMA 4X	NEMA 4X
Operating ambient temperature range	-20 °C to 55 °C		
Storage temperature range	-40 °C to 85 °C		

* Connecting lug requires coarse-stranded cable, ** Satcon recommends Belden P/N 9341

*** Satcon recommends Belden P/N 1048A, † Total length of network to be within 600 m (2000 ft)