NEW

HiKu

SUPER HIGH POWER POLY PERC MODULE

395 W ~ 415 W

CS3W-395|400|405|410|415P

MORE POWER

24 % more power than conventional modules

Up to 4.5 % lower LCOE
Up to 2.7 % lower system cost

Low NMOT: 42 ± 3 °C
Low temperature coefficient (Pmax): -0.37 % / °C

Better shading tolerance

MORE RELIABLE

Lower internal current, lower hot spot temperature

Cell crack risk limited in small region, enhance the module reliability

Heavy snow load up to 5400 Pa, wind load up to 3600 Pa

25 years linear power output warranty

10 years product warranty on materials and workmanship

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
OHSAS 18001:2007 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730: VDE / CE / CEC AU
IEC61701 ED2: VDE / IEC62716: VDE
UL 1703: CSA
Take-e-way

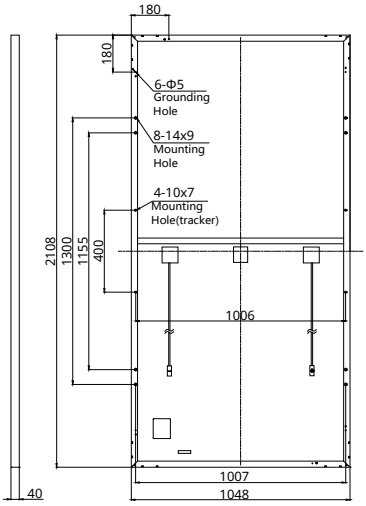
* We can provide this product with special BOM specifically certified with salt mist, and ammonia tests. Please talk to our local technical sales representatives to get your customized solutions.

CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. No. 1 module supplier for quality and performance/price ratio in IHS Module Customer Insight Survey. As a leading PV project developer and manufacturer of solar modules with over 30 GW deployed around the world since 2001.

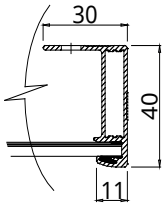
CANADIAN SOLAR INC.
545 Speedvale Avenue West, Guelph, Ontario N1K 1E6, Canada, www.canadiansolar.com, support@canadiansolar.com

ENGINEERING DRAWING (mm)

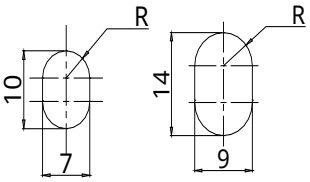
Rear View



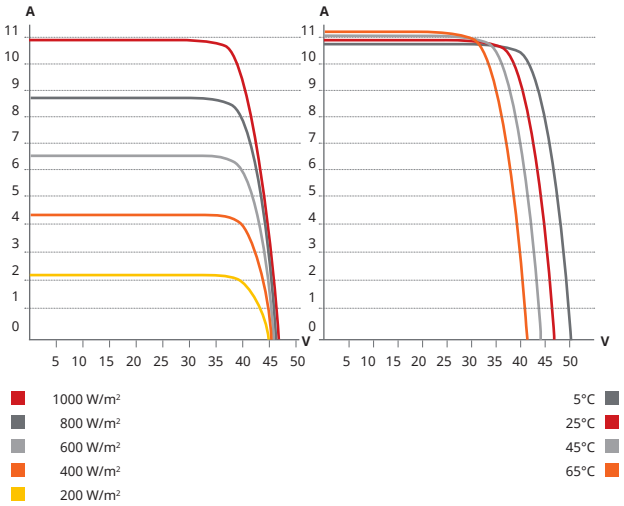
Frame Cross Section A-A



Mounting Hole



CS3W-400P / I-V CURVES



ELECTRICAL DATA | STC*

CS3W	395P	400P	405P	410P	415P
Nominal Max. Power (Pmax)	395 W	400 W	405 W	410 W	415 W
Opt. Operating Voltage (Vmp)	38.5 V	38.7 V	38.9 V	39.1 V	39.3 V
Opt. Operating Current (Imp)	10.26 A	10.34 A	10.42 A	10.49 A	10.56 A
Open Circuit Voltage (Voc)	47.0 V	47.2 V	47.4 V	47.6 V	47.8 V
Short Circuit Current (Isc)	10.82 A	10.90 A	10.98 A	11.06 A	11.14 A
Module Efficiency	17.88%	18.11%	18.33%	18.56%	18.79%
Operating Temperature	-40°C ~ +85°C				
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)				
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)				
Max. Series Fuse Rating	20 A				
Application Classification	Class A				
Power Tolerance	0 ~ + 5 W				

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL DATA | NMOT*

CS3W	395P	400P	405P	410P	415P
Nominal Max. Power (Pmax)	293 W	297 W	301 W	304 W	308 W
Opt. Operating Voltage (Vmp)	35.1 V	35.3 V	35.5 V	35.7 V	35.9 V
Opt. Operating Current (Imp)	8.35 A	8.42 A	8.48 A	8.52 A	8.58 A
Open Circuit Voltage (Voc)	44.0 V	44.2 V	44.4 V	44.6 V	44.8 V
Short Circuit Current (Isc)	8.72 A	8.78 A	8.85 A	8.90 A	8.97 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

MECHANICAL DATA

Specification	Data
Cell Type	Poly-crystalline
Cell Arrangement	144 [2 X (12 X 6)]
Dimensions	2108 X 1048 X 40 mm (83.0 X 41.3 X 1.57 in)
Weight	24.9 kg (54.9 lbs)
Front Cover	3.2 mm tempered glass
Frame	Anodized aluminium alloy, crossbar enhanced
J-Box	IP68, 3 bypass diodes
Cable	4 mm² (IEC), 12 AWG (UL)
Cable Length (Including Connector)	Portrait: 500 mm (19.7 in) (+) / 350 mm (13.8 in) (-); landscape: 1400 mm (55.1 in); leap-frog connection: 1670 mm (65.7 in)*
Connector	T4 series
Per Pallet	27 pieces
Per Container (40' HQ)	594 pieces

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.37 % / °C
Temperature Coefficient (Voc)	-0.29 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	42 ± 3°C

PARTNER SECTION

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Canadian Solar Inc. reserves the right to make necessary adjustment to the information described herein at any time without further notice.
Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CANADIAN SOLAR INC.
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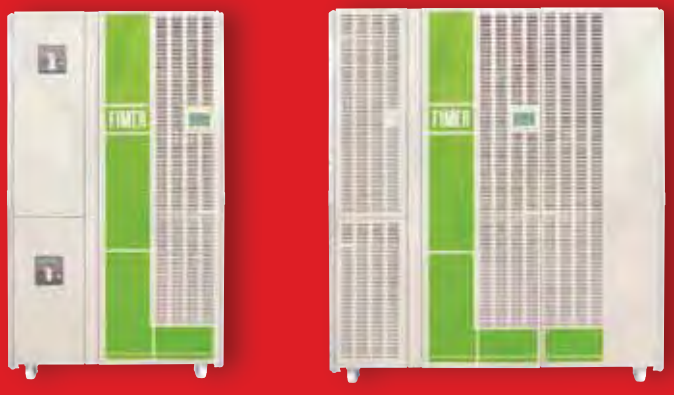
MV

MV CENTRAL INVERTER



1500V

MV CENTRAL INVERTER
TRANSFORMERLESS
1.500V

The FIMER TL series centralized modular inverters have been specifically designed for the employment of large-scale photovoltaic power plants and MT connection to the grid applications. These inverters conserve the architectural and modular characteristics of all FIMER centralized inverters and the connection to the electricity grid through MT transformer ensures extremely high yields, approximately 99%. Thanks to modularity the configuration of these machines is extremely flexible and they ensure production continuity eliminating machine downtime.

FIMER machines are also provided with a series of included accessories, which our competitors often supply as optional:

- DC and AC switch connections and safety side.
- serial and Ethernet interface.
- Integrated Datalogger and Energy Meter.
- 4,3" digital touch screen display.
- Lightning protection devices (SPD) PV side.
- Acquisition field sensors (radiation and temperature).
- Energy meter reading (via pulse input S_0) and analog inputs.

Gli inverter modulari FIMER serie TL centralizzati sono stati specificatamente progettati per applicazioni di campi fotovoltaici di grandi dimensioni e allacciamento a reti elettriche di distribuzione MT. Questi inverter conservano la caratteristica architettura modulare di tutti gli inverter centralizzati FIMER e il collegamento alla rete elettrica attraverso il trasformatore MT garantisce dei rendimenti estremamente elevati nell'ordine del 99%.
Grazie alla modularità queste macchine risultano estremamente flessibili come configurazione e garantiscono una costanza nella produzione eliminando il fermo macchina.

Le macchine FIMER hanno anche una serie di accessori già inclusi che spesso i concorrenti forniscono come optional:

- Interruttori di connessione e sicurezza lato CC e CA.
- Interfaccia seriale e Ethernet.
- Datalogger Integrato ed Energy Meter.
- Display digitale touch screen da 4,3".
- Dispositivi di protezione contro i fulmini (SPD) lato FV.
- Acquisizione sensori di campo (irraggiamento e temperatura).
- Lettura contatore di energia (mediante ingresso impulsivo S_0) e ingressi analogici.

ADVANTAGES & FEATURES

MAX POWER 1.500V

FIMER Centralized inverters with MT connection to the electricity distribution are completely innovative machines. The MPS technology (Modular Power System), owned and patented by FIMER, allows the improvement of three main features of a PV inverter:

> PERFORMANCE
> LIFETIME
> ELIMINATION OF MACHINE DOWN-TIMES

PERFORMANCE

FIMER inverter is modular and, as already explained, this peculiarity is due to the inverter's conversion stage which is formed by more IGBT 75kWp power modules working in parallel in output on the AC power distribution grid: if we take as reference a 1.025 kWp machine, this is formed by ten 102.5 kWp modules, instead a 300 kWp inverter is made of four 50kWp modules, and so on. The modularity also extends to magnetic devices (inductors), capacitors energy conversion and all cards and electronic devices for control and regulation (whose one piece is always available for each power module). This makes FIMER machines unique on the market. Why? Because if any inverter of the competitors, for example a 1.025 kWp, usually needs to magnetize the power circuits devices (f.e. inductances, line filter, capacitors on the grid side, etc..) about 10% of the nominal power, which corresponds in this case to about 102.5 kWp, FIMER machine must magnetize always and only one 50kWp module at a time which in our case corresponds to a magnetizing energy consumption of 0.8 kWp, a consumption that is applied only to the modules that at that time the machine is switching on and is making work. This means that FIMER machine produces about 11% more than any other manufacturer in the world thanks to this unique feature. By installing a FIMER inverter, you will be able to pay-off your investment in the first years of functioning and product basis warranty.

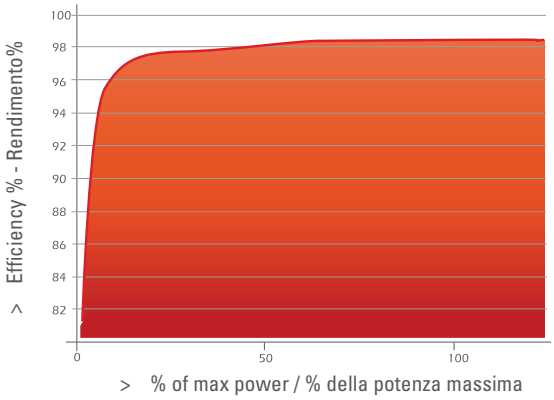
LIFETIME

A FIMER inverter lasts longer! To last longer electronics need to work at low temperatures. FIMER inverter power modules turn on and off in a sequential manner so they are always cool, (or they operate in low temperatures and they are always checked) so they are destined to last longer. Furthermore in this way the use of cooling fans is also optimized, they absorb and dissipate less energy turning less and less time, which ensures higher performance and profitability to the PV Inverter.

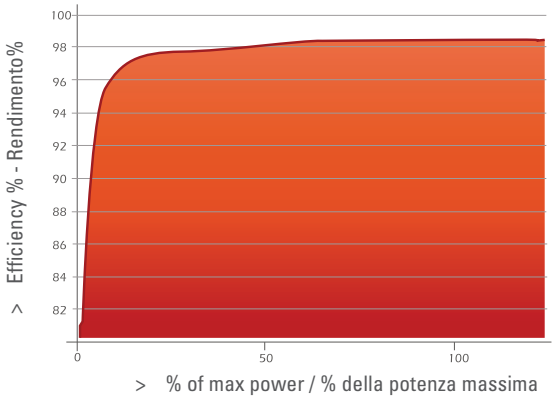
ELIMINATION OF MACHINE DOWN-TIMES

As the power architecture is divided into several modules, the inverter will never stop completely because it will only stop the failing module inside the converter. Competitors' inverters are usually made with a single power module inverter (or in case of multi-modules, often with a single magnetic filter device towards the grid), when a competitor's machine stops then the inverter will stop producing until it's repaired. Instead FIMER inverter keeps on functioning as it has multiple modules and multiple magnetic devices, even when one is damaged, the others continue to operate normally so our customer will never lose a EURO of production.

PERFORMANCE



RENDIMENTI



Gli inverter FIMER Centralizzati per allaccio alle reti elettriche di distribuzione MT sono macchine completamente innovative. La tecnologia MPS (Modular Power System), proprietaria e brevettata FIMER, consente di ottimizzare i tre principali aspetti che caratterizzano un inverter Fotovoltaico:

- PERFORMANCE
- DURATA
- ELIMINAZIONE FERMO MACCHINA

PERFORMANCE

L'inverter FIMER è un inverter modulare e, come già spiegato in precedenza, questa particolarità consiste nel fatto che lo stadio di conversione dell'inverter è formato da più moduli di potenza ad IGBT da 75kWp che lavorano in parallelo tra loro in uscita sulla rete elettrica di distribuzione CA: se prendiamo come riferimento una macchina da 1.025 kWp essa è formata da dieci moduli da 102.5 kWp, mentre una macchina da 300 kWp è realizzata con quattro moduli da 102.5 kWp, e cosi via. La modularità si estende inoltre anche ai dispositivi magnetici (induttanze), ai condensatori di conversione dell'energia e a tutte le schede ed i dispositivi elettronici di controllo e regolazione (presenti sempre uno per ciascun modulo di potenza). Questo aspetto rende la macchina FIMER, unica sul mercato. Perché? Perché mentre un qualsiasi inverter ad esempio da 1.025 kWp della concorrenza ha solitamente bisogno per la magnetizzazione dei dispositivi dei circuiti di potenza (es. le induttanze, il filtro di linea, i condensatori lato rete, ecc.) di circa 10% della potenza nominale, che corrisponde in questo caso a circa 102.5 kWp, la macchina FIMER deve magnetizzare sempre e solo un modulo da 102.5 kWp alla volta che nel nostro caso corrisponde ad un consumo di energia magnetizzante pari a 0,8 kWp, consumo che viene applicato ai soli moduli che in quel momento la macchina sta accendendo e facendo lavorare. Tutto questo si traduce nel fatto che la macchina FIMER produce circa l'11% in più di qualsiasi altro produttore al mondo grazie a questa caratteristica unica. Questo significa che installando un inverter FIMER, esso si ripaga quasi interamente già nei primi anni di funzionamento dell'impianto e di copertura della garanzia base del prodotto.

DURATA

Un inverter FIMER dura di più! Per durare di più l'elettronica ha bisogno di lavorare a basse temperature. I moduli di potenza degli inverter FIMER si accendono e si spengono in maniera sequenziale in modo da rimanere sempre freddi (ovvero operano in condizioni di temperature di lavoro basse e sempre controllate) quindi sono destinati a durare di più nel tempo. Oltretutto, in questo modo, viene anche ottimizzato l'utilizzo delle ventole di raffreddamento che, girando meno e per meno tempo, assorbono e dissipano meno energia garantendo quindi alla macchina dei valori di rendimento e di redditività più elevati.

ELIMINAZIONE DEL FERMO MACCHINA

Avendo un'architettura di potenza suddivisa in più moduli, la macchina non si fermerà mai completamente poiché si arresterà solo il modulo malfunzionante presento entro il convertitore. Le macchine della concorrenza sono solitamente realizzate con un solo modulo inverter di potenza (o se multi modulo, spesso con un solo dispositivo magnetico di filtro verso la rete); quando si ferma una macchina della concorrenza allora l'inverter non produce più nulla fino a quando esso non viene riparato. L'inverter FIMER invece, avendo più moduli e più dispositivi magnetici, anche nel caso in cui uno di questi si guasti, gli altri continuano a funzionare regolarmente non facendo perdere "un euro" di produzione al cliente.

R5515 TL
I35.532.050

R6615 TL
I36.632.050

OUTPUT VOLTAGE

400 V_{AC}

MPPT VOLTAGE RANGE

675 - 1.320V_{DC}

Advantage

> High efficiency, up to 99%.
> Modular inverter (MPS system).

> Elevato rendimento, quasi 99%.
> Modularità dell'inverter (MPS system).

Features

> Use of a single magnetic component each module.
> Advance modularity (according to IPCCM algorithm).
> Continual monitoring of the system and integrated datalogger.
> Outbound communication.
> Monitoring of the photovoltaic plant.

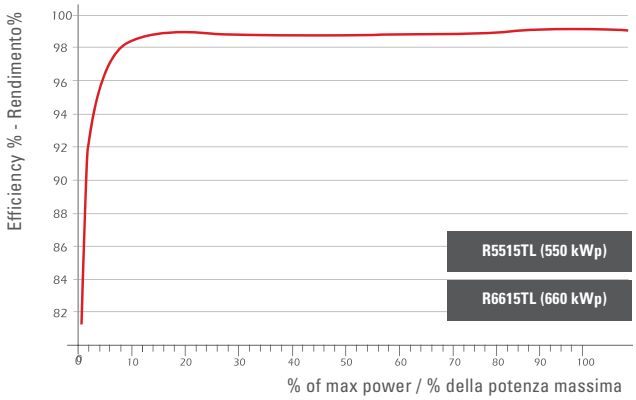
> Impiego di un singolo componente magnetico per ciascun modulo.
> Modulazione all'avanguardia (secondo l'algoritmo IPCCM).
> Supervisione continua del sistema e datalogger integrato.
> Comunicazione verso il mondo esterno.
> Monitoraggio dell'impianto fotovoltaico.

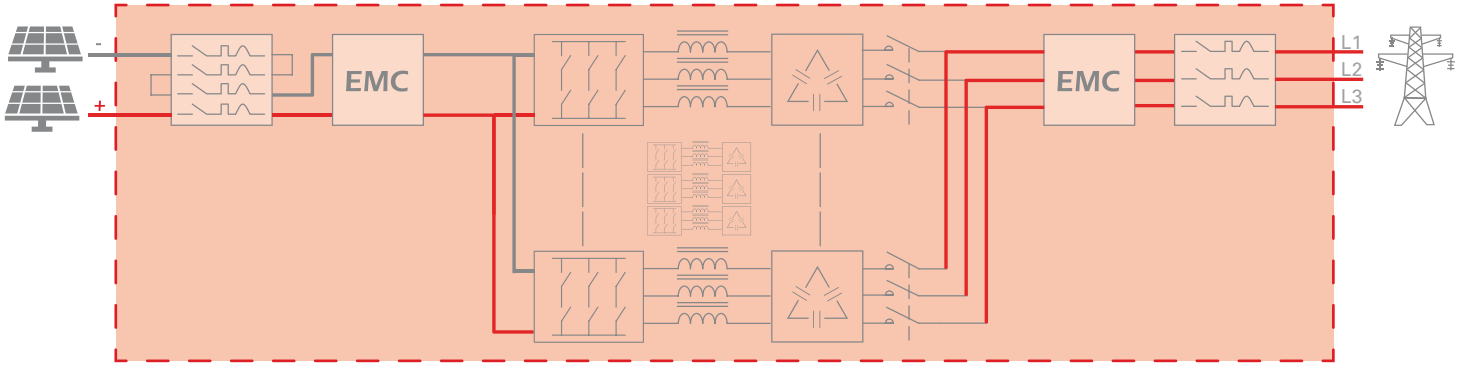
Accessories

> See accessories pag. 41
> Vedi accessori pag. 41

IP 20

LVFRT | OVER FREQ. P REDUCTION | SEMICIRCULAR CAPABILITY | Q=f(V) | COS$_{\varphi}$=f(P)

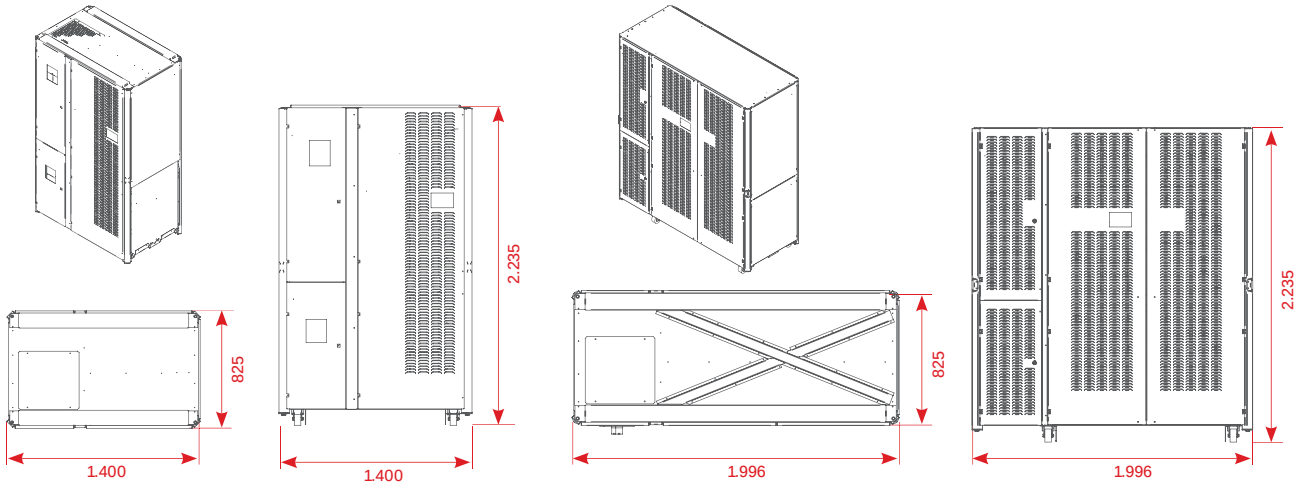




MV Central Inverter

Note: Block diagram refers to the converter R5515TL
Lo schema a blocchi si riferisce al convertitore R5515TL

R5515 TL
R6615 TL



DC Input - PV Module

	R5515TL	R6615TL
Nr Modules	**5**	**6**
MPPT voltage range(V_{DC})	675 - 1.320 V	675 - 1.320 V
Max no-load PV voltage (V_{OC})	**1.500 V**	**1.500 V**
DC-voltage ripple (%)	3%	3%
Maximum input current (A_{DC})	800 A	960 A
DC control mode	Rapid and efficient MPPT control	Rapid and efficient MPPT control
Number of MPPT	1	1
Number of input max in parallel	2 (Opt. 4)	2 (Opt. 4)
Reverse polarity protection	•	•
DC input connection	Integrated DC Switch	Integrated DC Switch
Overvoltage protection	SPD surge arrestors	SPD surge arrestors
Overvoltage Category	II	II

AC Output grid

Nominal power (kVA)* (Note1)	513 kVA	615 kVA
Max current (A_{AC}) *(Note1)	741 A	889 A
Max unbalance current	< 2%	< 2%
AC output Voltage (V_{AC})	400V_{RMS} ±10%	400V_{RMS} ±10%
Nr Phase	3-phase (L1-L2-L3-PE)	3-phase (L1-L2-L3-PE)
Frequency (Hz)	50/60 Hz	50/60 Hz
Aux. power supply (V_{AC} - I_{AC})	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Auxiliary control supply	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Distortion factor (THD)	< 3%	< 3%
Galvanic insulation	No (transformerless)	No (transformerless)
AC input connection	Magnetothermic AC grid switch	Magnetothermic AC grid switch

General Data

Maximum efficiency	98.80%	98.80%
European efficiency	98.30%	98.30%
Static MPPT efficiency	> 99.9 %	> 99.9 %
Dynamic MPPT efficiency	> 99.8 %	> 99.8 %
Night consumption (W)	< 60 W	< 60 W
Modulation	By using the IPCCM algorithm	By using the IPCCM algorithm
Weight (kg)	1.300 kg	1.330 kg
Protection degree	IP20	IP20
Cooling	By using fans speed controlled by temperature	By using fans speed controlled by temperature
Dimensions (DxWxH mm)	1.400x825x2.235 mm	1.996x825x2.235 mm
Noise level (dBA)	< 70 dBA	< 70 dBA
Operating temperature (°C)	-10° C +50° C	-10° C +50° C
Storage temperature (°C)	-20° C +60° C	-20° C +60° C
Humidity Not condensing	0 ÷ 95%	0 ÷ 95%
Height above the sea (without derating) *(Note 2)	1.000 m	1.000 m
Air Flow	2.425 m³/h	2.910 m³/h
Protection class	I	I
Colour	RAL 9006	RAL 9006

"Note1. Power factor (cosφ)= 1 / Fattore di potenza (cosφ)= 1"
"Note2. Above 1000m derate the power of 1% pr 100m up to 3000m over the sea level /Riduzione di potenza pari a 1% ogni 1.000 m oltre i 1.000m e fino ai 3000 m massimo slm."

R7715 TL
I37.732.050

R8815 TL
I38.832.050

MAXIMUM EFFICIENCY

98.9 %

OUTPUT VOLTAGE

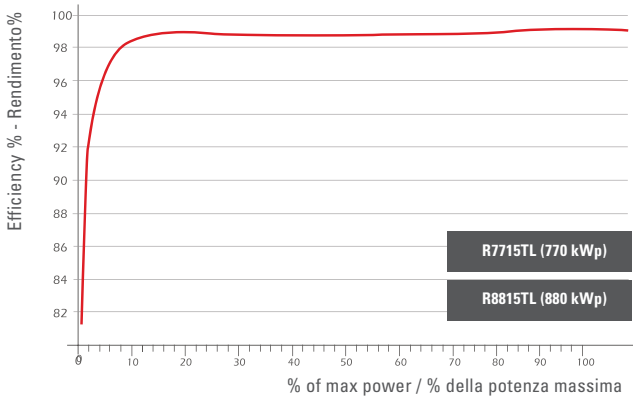
400 V_{AC}

MPPT VOLTAGE RANGE

675 - 1.320V_{DC}

IP 20

LVFRT | OVER FREQ. P REDUCTION | SEMICIRCULAR CAPABILITY | Q=f(V) | COS$_{\varphi}$=f(P)



Advantage

> High efficiency, up to 99%.
> Modular inverter (MPS system).

> Elevato rendimento, quasi 99%.
> Modularità dell'inverter (MPS system).

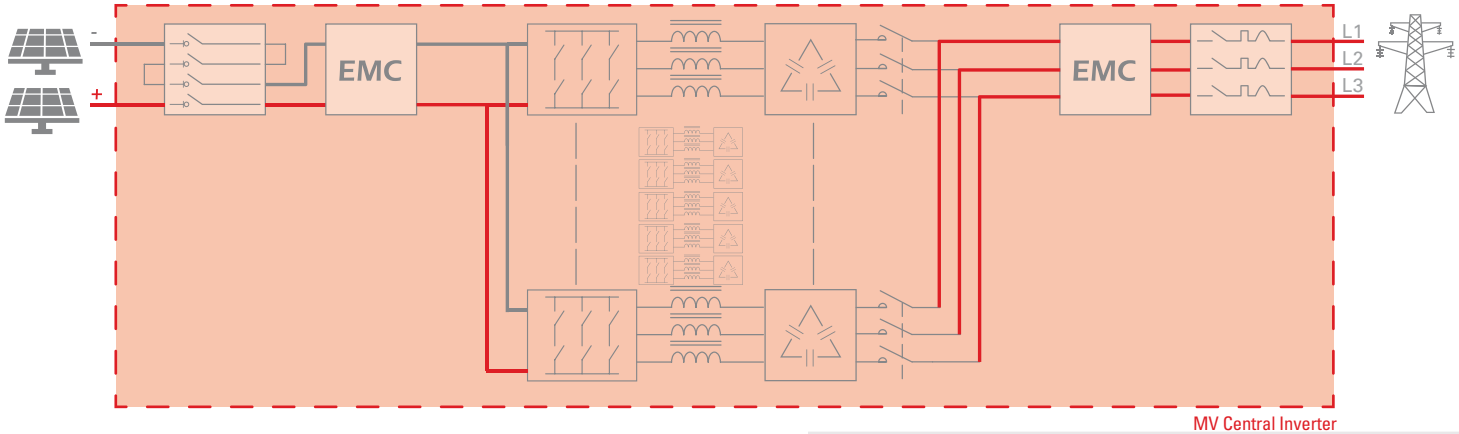
Features

> Use of a single magnetic component each module.
> Advance modularity (according to IPCCM algorithm).
> Continual monitoring of the system and integrated datalogger.
> Outbound communication.
> Monitoring of the photovoltaic plant.

> Impiego di un singolo componente magnetico per ciascun modulo.
> Modulazione all'avanguardia (secondo l'algoritmo IPCCM).
> Supervisione continua del sistema e datalogger integrato.
> Comunicazione verso il mondo esterno.
> Monitoraggio dell'impianto fotovoltaico.

Accessories

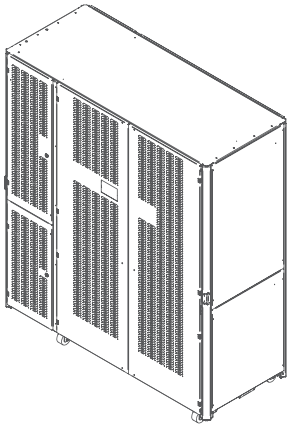
> See accessories pag. 79
> Vedi accessori pag. 79

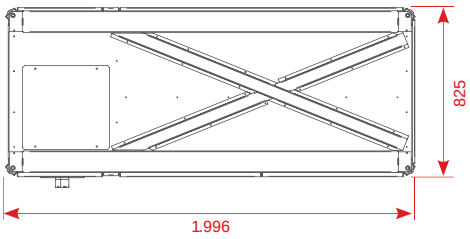


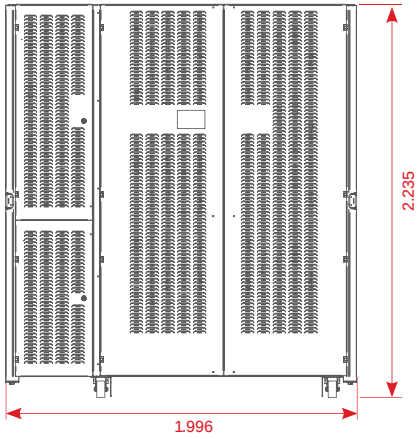
MV Central Inverter

Note: Block diagram refers to the converter R7715TL
Lo schema a blocchi si riferisce al convertitore R7715TL

R7715 TL
R8815 TL







DC Input - PV Module

	R7715TL	R8815TL
Nr Modules	**7**	**8**
MPPT voltage range(V_{DC})	675 - 1.320 V	675 - 1.320 V
Max no-load PV voltage (V_{OC})	**1.500 V**	**1.500 V**
DC-voltage ripple (%)	3%	3%
Maximum input current (A_{DC})	1.120 A	1.280 A
DC control mode	Rapid and efficient MPPT control	Rapid and efficient MPPT control
Number of MPPT	1	1
Number of input max in parallel	2 (Opt. 4)	2 (Opt. 4)
Reverse polarity protection	•	•
DC input connection	Integrated DC Switch	Integrated DC Switch
Overvoltage protection	SPD surge arrestors/	SPD surge arrestors
Overvoltage Category	II	II

AC Output grid

Nominal power (kVA)* (Note1)	718 kVA	820 kVA
Max current (A_{AC}) *(Note1)	1.037 A	1.185 A
Max unbalance current	< 2%	< 2%
AC output Voltage (V_{AC})	400V_{RMS} ±10%	400V_{RMS} ±10%
Nr Phase	3-phase (L1-L2-L3-PE)	3-phase (L1-L2-L3-PE)
Frequency (Hz)	50/60 Hz	50/60 Hz
Aux. power supply (V_{AC} - I_{AC})	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Auxiliary control supply	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Distortion factor (THD)	< 3%	< 3%
Galvanic insulation	No (transformerless)	No (transformerless)
AC input connection	Magnetothermic AC grid switch	Magnetothermic AC grid switch

General Data

Maximum efficiency	98.80%	98.80%
European efficiency	98.30%	98.30%
Static MPPT efficiency	> 99.9 %	> 99.9 %
Dynamic MPPT efficiency	> 99.8 %	> 99.8 %
Night consumption (W)	< 60 W	< 60 W
Modulation	By using the IPCCM algorithm	By using the IPCCM algorithm
Weight (kg)	1.400 kg	1.430 kg
Protection degree	IP20	IP20
Cooling	By using fans speed controlled by temperature	By using fans speed controlled by temperature
Dimensions (DxWxH mm)	1.996x825x2.235 mm	1.996x825x2.235 mm
Noise level (dBA)	< 70 dBA	< 70 dBA
Operating temperature (°C)	-10° C +50° C	-10° C +50° C
Storage temperature (°C)	-20° C +60° C	-20° C +60° C
Humidity Not condensing	0 ÷ 95%	0 ÷ 95%
Height above the sea (without derating) *(Note 2)	1.000 m	1.000 m
Air Flow	3.395 m³/h	3.880 m³/h
Protection class	I	I
Colour	RAL 9006	RAL 9006

"Note1. Power factor (cosφ)= 1 / Fattore di potenza (cosφ)= 1"
"Note2. Above 1000m derate the power of 1% pr 100m up to 3000m over the sea level /Riduzione di potenza pari a 1% ogni 1.000 m oltre i 1.000m e fino ai 3000 m massimo slm."

R10015 TL R11015 TL

I31.042.050 I31.142.050

MAXIMUM EFFICIENCY

98.9 %

OUTPUT VOLTAGE

400 V_{AC}

MPPT VOLTAGE RANGE

675 - 1.320V_{DC}

Advantage

> High efficiency, up to 99%.
> Modular inverter (MPS system).

> Elevato rendimento, quasi 99%.
> Modularità dell'inverter (MPS system).

Features

> Use of a single magnetic component each module.
> Advance modularity (according to IPCCM algorithm).
> Continual monitoring of the system and integrated datalogger.
> Outbound communication.
> Monitoring of the photovoltaic plant.

> Impiego di un singolo componente magnetico per ciascun modulo.
> Modulazione all'avanguardia (secondo l'algoritmo IPCCM).
> Supervisione continua del sistema e datalogger integrato.
> Comunicazione verso il mondo esterno.
> Monitoraggio dell'impianto fotovoltaico.

Accessories

> See accessories pag. 79
> Vedi accessori pag. 79

IP 20

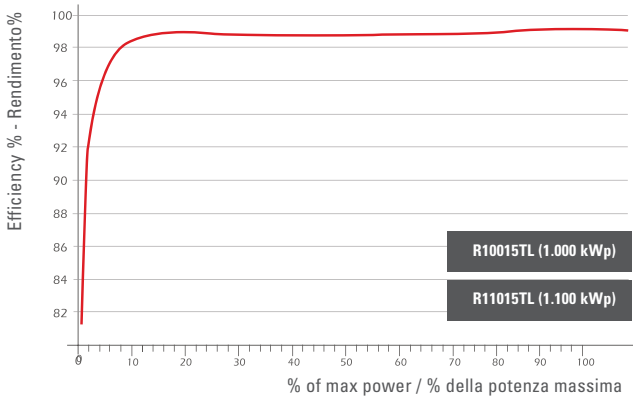
LVFRT

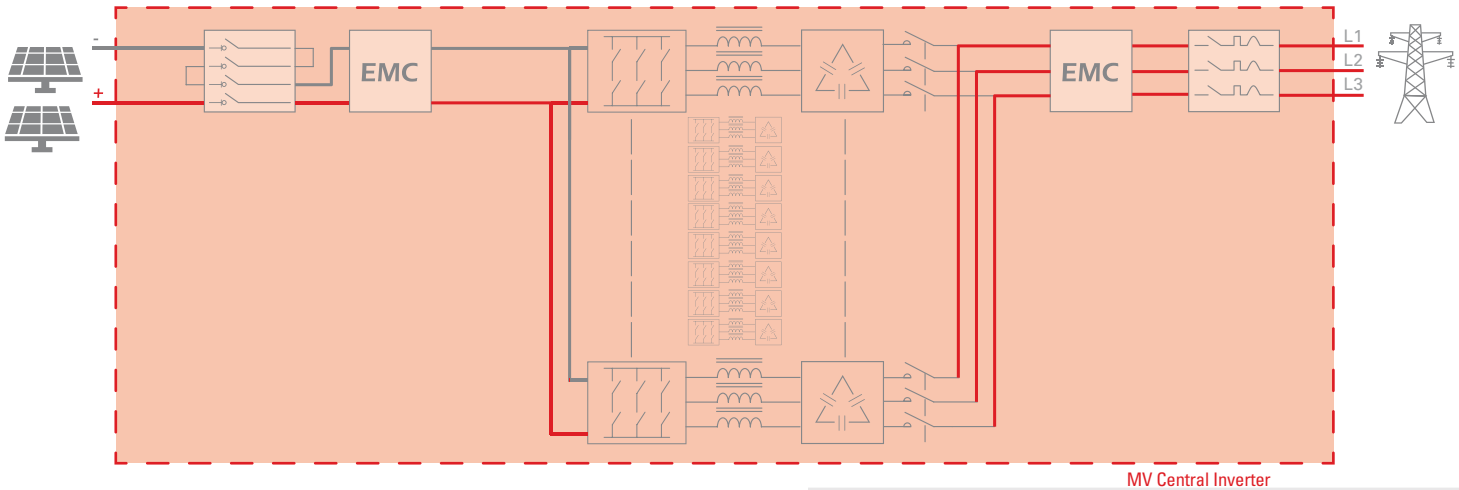
OVER FREQ. P REDUCTION

SEMICIRCULAR CAPABILITY

Q=f(V)

COS$_{\varphi}$=f(P)

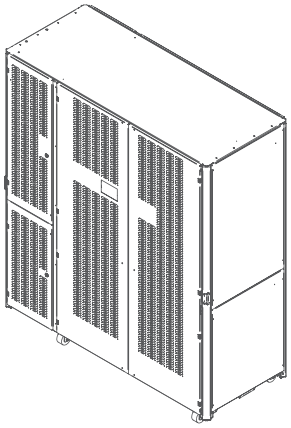


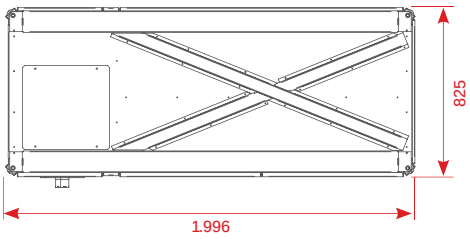


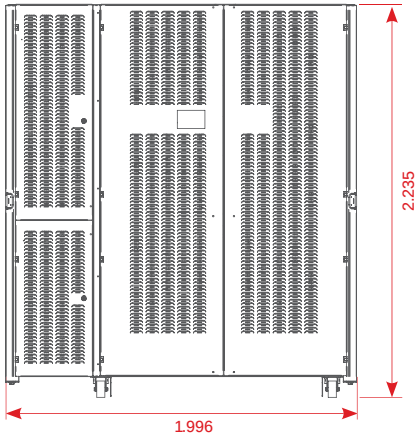
MV Central Inverter

Note: Block diagram refers to the converter R11015TL
Lo schema a blocchi si riferisce al convertitore R11015TL

R10015 TL
R11015 TL







DC Input - PV Module

	R10015TL	R11015TL
Nr Modules	**9**	**10**
MPPT voltage range(V_{DC})	675 - 1.320 V	675 - 1.320 V
Max no-load PV voltage (V_{OC})	**1.500 V**	**1.500 V**
DC-voltage ripple (%)	3%	3%
Maximum input current (A_{DC})	1.440 A	1.600 A
DC control mode	Rapid and efficient MPPT control	Rapid and efficient MPPT control
Number of MPPT	1	1
Number of input max in parallel	2 (Opt. 4)	2 (Opt. 4)
Reverse polarity protection	•	•
DC input connection	Integrated DC Switch	Integrated DC Switch
Overvoltage protection	SPD surge arrestors	SPD surge arrestors
Overvoltage Category	II	II

AC Output grid

Nominal power (kVA)* (Note1)	923 kVA	1.025 kVA
Max current (A_{AC}) *(Note1)	1.333 A	1.480 A
Max unbalance current	< 2%	< 2%
AC output Voltage (V_{AC})	400V_{RMS} ±10%	400V_{RMS} ±10%
Nr Phase	3-phase (L1-L2-L3-PE)	3-phase (L1-L2-L3-PE)
Frequency (Hz)	50/60 Hz	50/60 Hz
Aux. power supply (V_{AC} - I_{AC})	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Auxiliary control supply	230V ±10% - 10A (L-N)	230V ±10% - 10A (L-N)
Distortion factor (THD)	< 3%	< 3%
Galvanic insulation	No (transformerless)	No (transformerless)
AC input connection	Magnetothermic AC grid switch	Magnetothermic AC grid switch

General Data

Maximum efficiency	98.90%	98.90%
European efficiency	98.62%	98.62%
Static MPPT efficiency	> 99.9 %	> 99.9 %
Dynamic MPPT efficiency	> 99.8 %	> 99.8 %
Night consumption (W)	< 60 W	< 60 W
Modulation	By using the IPCCM algorithm	By using the IPCCM algorithm
Weight (kg)	1.500 kg	1.530 kg
Protection degree	IP20	IP20
Cooling	By using fans speed controlled by temperature	By using fans speed controlled by temperature
Dimensions (DxWxH mm)	1.996x825x2.235 mm	1.996x825x2.235 mm
Noise level (dBA)	< 70 dBA	< 70 dBA
Operating temperature (°C)	-10° C +50° C	-10° C +50° C
Storage temperature (°C)	-20° C +60° C	-20° C +60° C
Humidity Not condensing	0 ÷ 95%	0 ÷ 95%
Height above the sea (without derating) *(Note 2)	1.000 m	1.000 m
Air Flow	4.365 m^3/h	4.850 m^3/h
Protection class	I	I
Colour	RAL 9006	RAL 9006

"Note1. Power factor ($\cos\varphi$)= 1 / Fattore di potenza ($\cos\varphi$)= 1"
"Note2. Above 1000m derate the power of 1% pr 100m up to 3000m over the sea level /Riduzione di potenza pari a 1% ogni 1.000 m oltre i 1.000m e fino ai 3000 m massimo slm."

ACCESSORIES

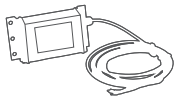
MV CENTRAL INVERTER
1.500 V

MV CENTRAL INVERTER

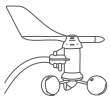
MV

Exthernal accessories - MV Central Inverter 1.500V

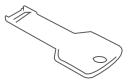
ENVIRONMENTAL SENSOR BOX (NOTE 1)

	> IA0.580.000	Temperature and irradiation sensor.

ANEMOMETER / ANEMOMETRO (NOTE 1)

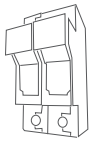
	> IA0.580.027	For measuring the intensity and direction of the wind.

FW Update USB KEY

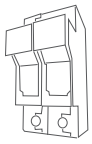
	> IA0.101.008	USB for FW updating. connection to the grid.

Accessories installed into 3ph MV central Inverter 1.500V

GROUNGING KIT DC+

	> xxx.yyy.zzz.000	Device required in case of installation of a photovoltaic generator with si-amorphus panels grounding on positive pole of solar strings.

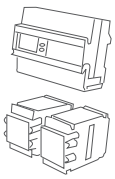
GROUNGING KIT DC-

	> xxx.yyy.zzz.001	Device required in case of installation of a photovoltaic generator with si-amorphus panels grounding on negative pole of solar strings.

SHUNT RELEASE

	> xxx.yyy.zzz.0003	Releasing coil for disconnecting the AC and DC switch in case of EPO activation (emergency push button).

ENERGY METER

	> IA0.580.052	Energy meter and current transformer probes.
	> IA0.580.056	Energy meter and current transformer probes for feed in tarif measure.

Note1. It is required the presence of the PC board called interface expansion card only for R1500TL

MS

MEGASTATION

1500V

MEGASTATION
COMPLETE SOLUTION UNITS
1.500V

The MEGASTATION are complete "turnkey" for the conversion of energy produced by large PV installation into electricity feed into the MV distribution grid. Thanks to the flexibility of the different sizes of power and the ease of connection and commissioning they provide fast installation extremely quick and rapid.

The MEGASTATION are available in four power size: 1.100-2.200-3.300-4.400 kWp (Max power DC 1.500V).
They are able to maximize the efficiency and performance of your solar park thanks to the use of central inverters FIMER R series with modular architecture of power (Modular Power System, patented by FIMER). Using the modular inverters FIMER within MEGASTATION it is allowed not only to maximize the efficiency and performance of the system, but also it reduces the downtime and the service is extremely rapid and available to restore easily the malfunction occurred to your conversion station. The Modular Power System gives therefore the absolute certainty the production of energy. Partializing the full power of each inverter, even in case of failure, your solar installation will never stop producing energy. Another power converter module will think to exploit and compensate for the production.

ADVANTAGES
- > Flexibility and scalability configuration.
- > A wide and complete range of power.
- > Manufactured and tested directly in factory to reduce installation time and avoid the assembly in plant.
- > Maximum efficiency and energy production thanks to inverter with MPS architecture.
- > Differentiated management of the photovoltaic generator and optimization in sub-field.
- > Designed in such a way as to be easily serviced periodically due to the easy accessibility of all installed devices.

Le MEGASTATION sono stazioni complete "chiavi in mano" per la conversione dell'energia FV prodotta da grandi impianti solari in energia elettrica ceduta alla rete MT del distributore. Grazie alla flessibilità delle varie taglie di potenza e alla estrema semplicità di allaccio e messa in servizio esse garantiscono tempi di installazione estremamente rapidi e veloci.

Le MEGASTATION sono disponibile in quattro taglie di potenza: 1.100-2.200-3.300-4.400 kWp (potenza massima DC 1.500V).
Esse sono in grado di massimizzare l'efficienza e il rendimento del Vostro parco solare grazie anche all'utilizzo di inverter centralizzati FIMER serie R con architettura modulare della potenza (Modular Power System, proprietaria FIMER). Utilizzare gli inverter modulari FIMER all'interno delle MEGASTATION consente non solo di massimizzare l'efficienza e il rendimento dell'impianto, ma anche di ridurre i tempi di fermo impianto e quelli di assistenza, estremamente RAPIDA e SEMPLICE, per il ripristino del malfunzionamento occorso alla Vostra stazione di conversione di energia. Il sistema Modular Power System vi dà pertanto la assoluta certezza della produzione di energia. Parzializzando tutta la potenza di ogni singolo inverter, anche in caso di guasto, il Vostro impianto solare non smetterà mai di produrre energia. Un altro modulo di potenza penserà a sfruttare e compensare la produzione.

PECULIARITÀ
- > Flessibilità e scalabilità di configurazione.
- > Vasta e completa gamma di potenza.
- > Realizzata e collaudata direttamente in fabbrica per ridurre i tempi di installazione ed evitare l'assemblaggio in impianto.
- > Massima efficienza e produzione di energia grazie a inverter con MPS.
- > Gestione differenziata del generatore fotovoltaico e suddivisione ottimizzata in sottocampi.
- > Progettata in maniera tale da poter essere facilmente manutenuta periodicamente grazie alla facile accessibilità di tutti i dispositivi installati.

MS 1100

Up to 1.100 kVA
20 ft.

MS 2200

Up to 2.000 kVA
20 ft. ot 40 ft.

APPARENT POWER AC	MV OPERATING VOLTAGE	MPPT VOLTAGE RANGE
up to 2.000 kVA	Up to 36 kV	Up to 1.500 V_{DC}

Advantage

> Modular and scalable size of power.
> Fully waterproof and insulated to withstand over time.
> High reliability to ensure easy maintainability.
> Fixing of all devices at the native structures of the container guarantee maximum stability of the station.
> Complete range of standard equipment, with customizable request of options

> Potenza modulare e scalabile.
> Perfettamente impermeabili all'acqua e isolate termicamente per resistere nel tempo.
> Elevata affidabilità per garantire una facile manutenibilità.
> Fissaggio di tutti i dispositivi alle strutture portanti del container per garanzia di massima stabilità.
> Completo equipaggiamento di serie, personalizzabile con richiesta di opzioni.

Features

> Plug & play installation to reduce the time of built of the Pv plant.
> Very compact and extremely robust design.

> Soluzione plug&play per ridurre i tempi di realizzo impianto.
> Design molto compatto e struttura estremamente robusta.

MS 3300
Up to 3.000 kVA
40 ft.

MS 4400
Up to 4.000 kVA
40 ft.

APPARENT POWER AC	MV OPERATING VOLTAGE	MPPT VOLTAGE RANGE
up to 4.000 kVA	Up to 36 kV	Up to 1.500 V_{DC}

Advantage

> Modular and scalable size of power.
> Fully waterproof and insulated to withstand over time.
> High reliability to ensure easy maintainability.
> Fixing of all devices at the native structures of the container guarantee maximum stability of the station.
> Complete range of standard equipment, with customizable request of options

> Potenza modulare e scalabile.
> Perfettamente impermeabili all'acqua e isolate termicamente per resistere nel tempo.
> Elevata affidabilità per garantire una facile manutenibilità.
> Fissaggio di tutti i dispositivi alle strutture portanti del container per garanzia di massima stabilità.
> Completo equipaggiamento di serie, personalizzabile con richiesta di opzioni.

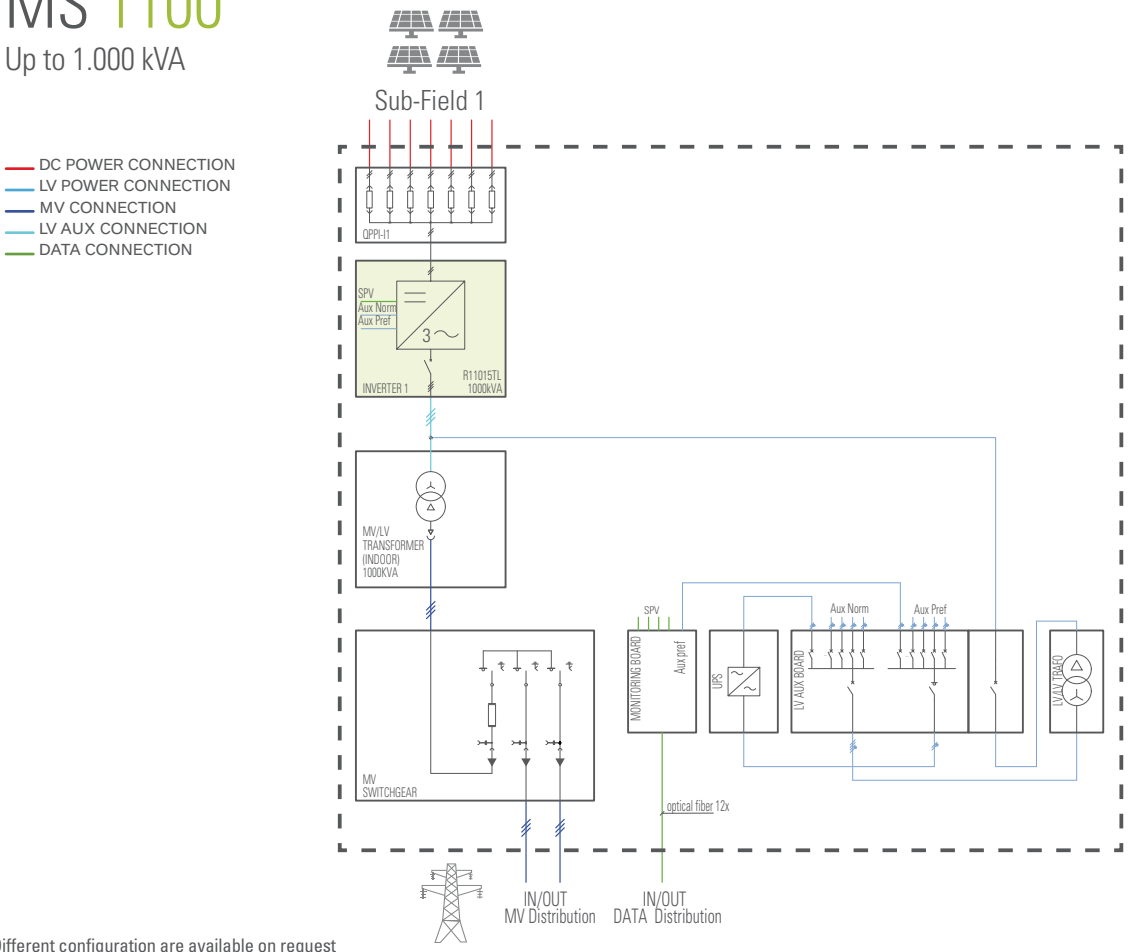
Features

> Plug & play installation to reduce the time of built of the Pv plant.
> Very compact and extremely robust design.

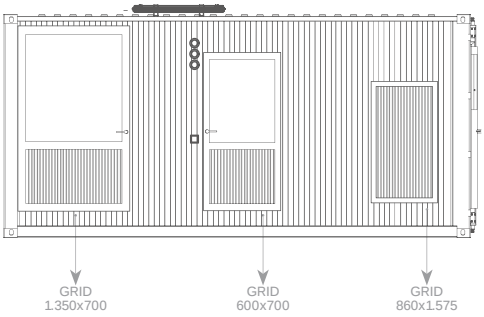
> Soluzione plug&play per ridurre i tempi di realizzo impianto.
> Design molto compatto e struttura estremamente robusta.

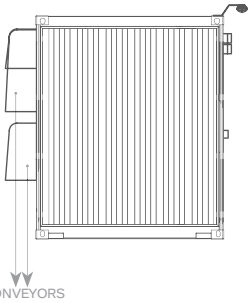
MS 1100

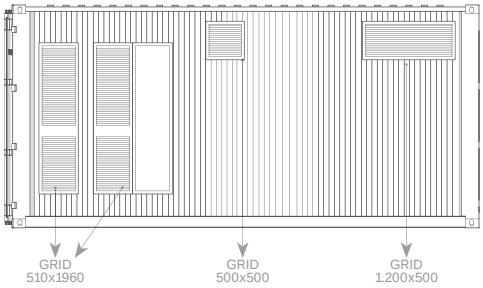
Up to 1.000 kVA

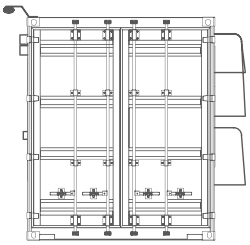


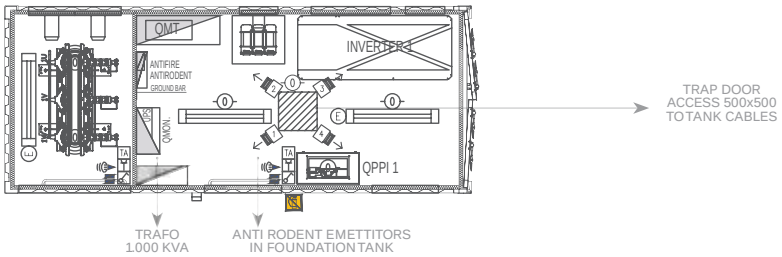
* Different configuration are available on request
* It is possible to have 40 ft.





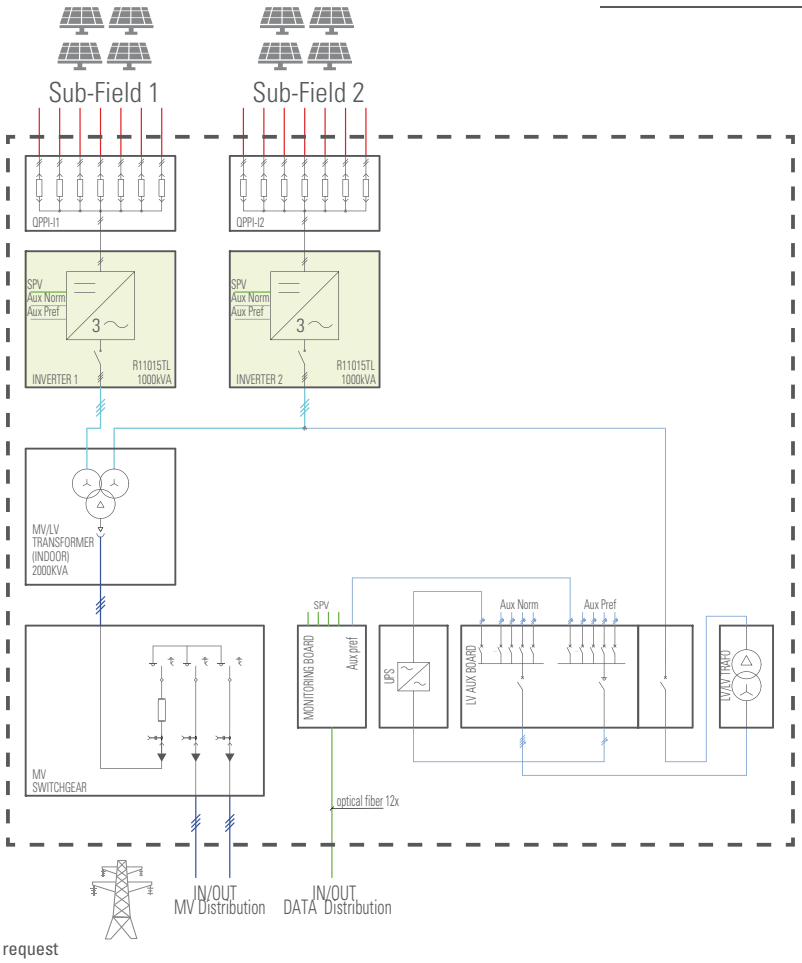




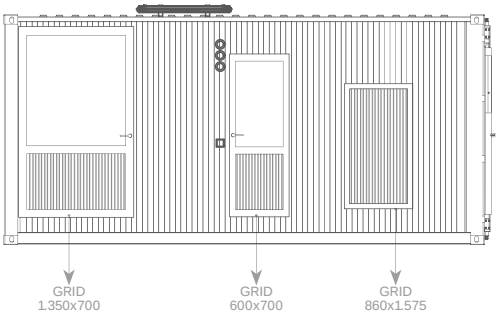


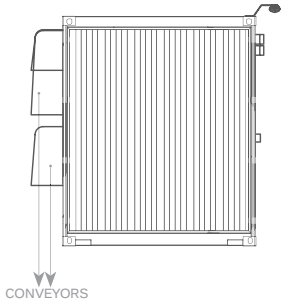
MS 2200

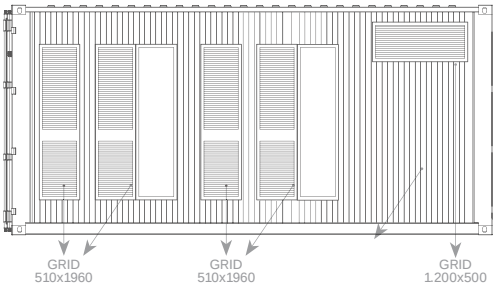
Up to 2.000 kVA

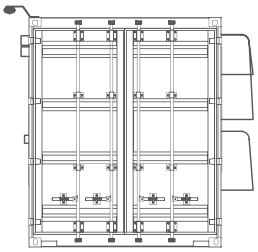


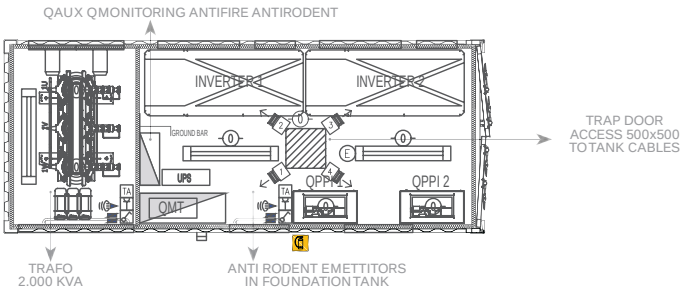
* Different configuration are available on request
* It is possible to have 40 ft.





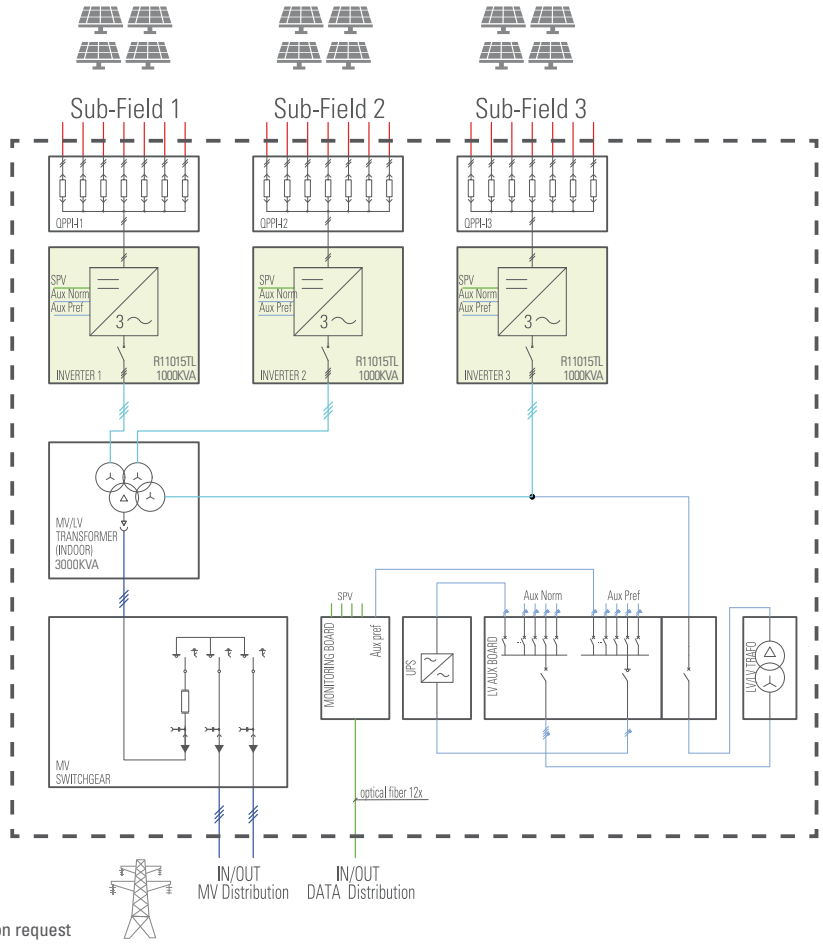




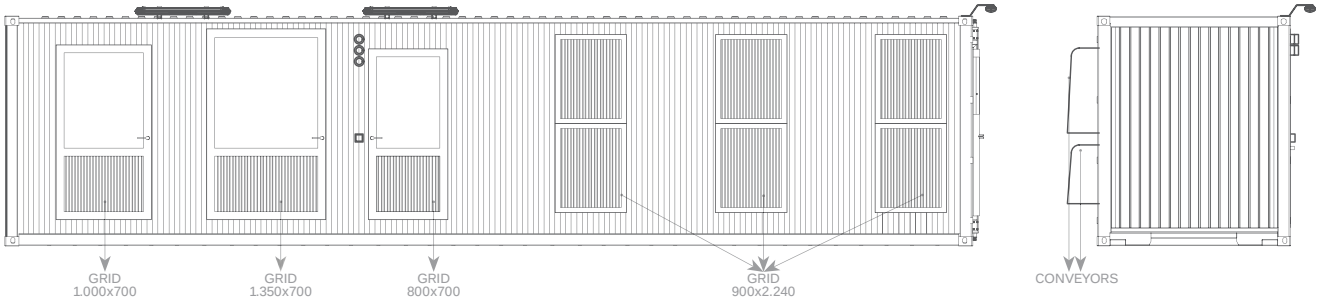


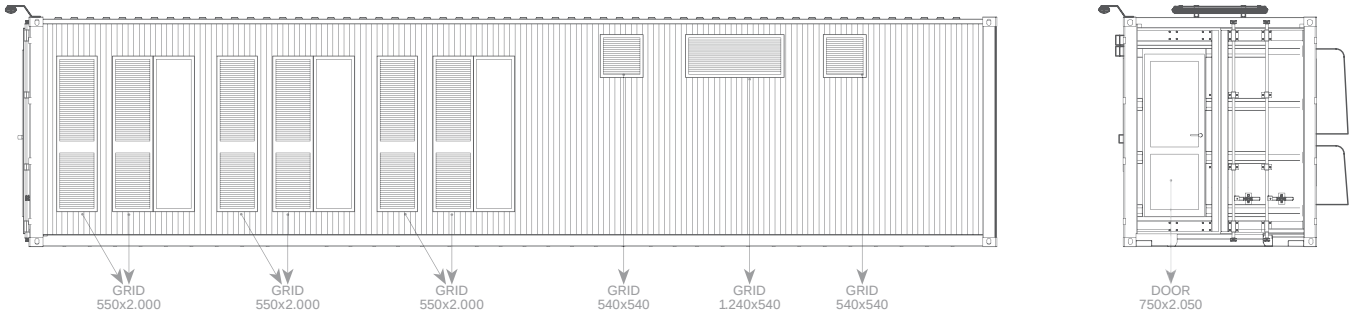
MS 3300

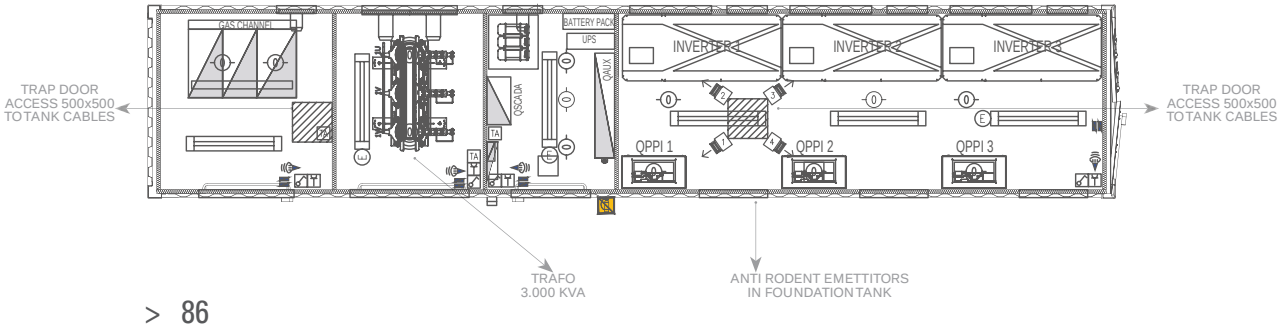
Up to 3.000 kVA



* Different configuration are available on request

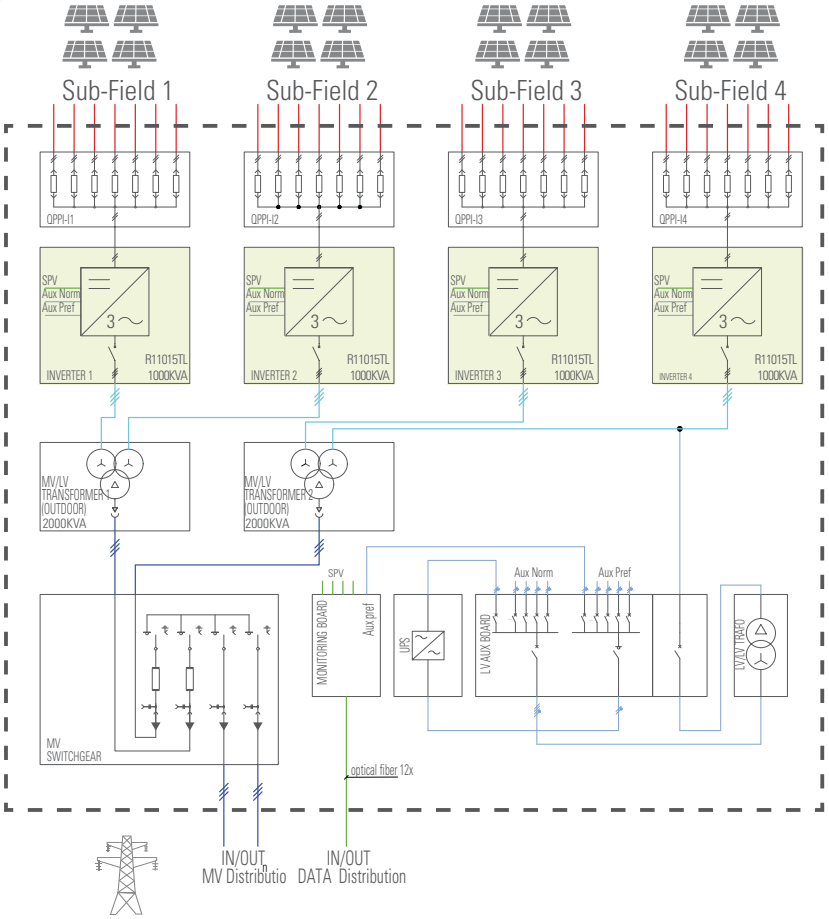




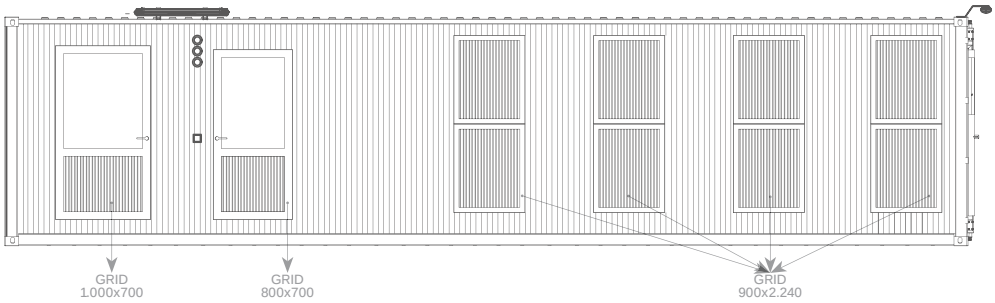


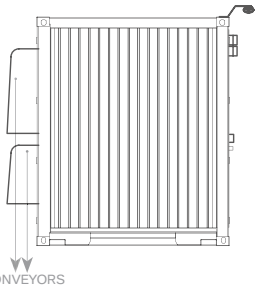
MS 4400

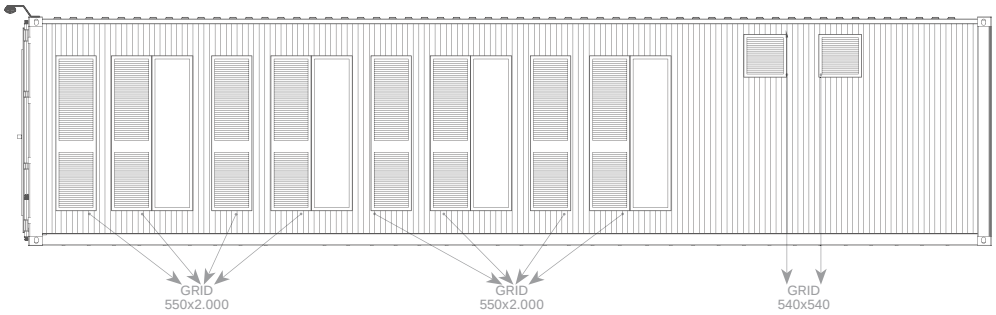
Up to 4.000 kVA

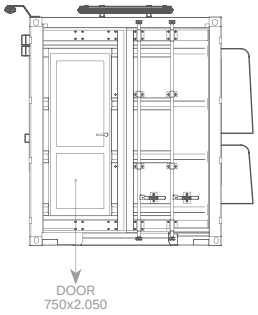


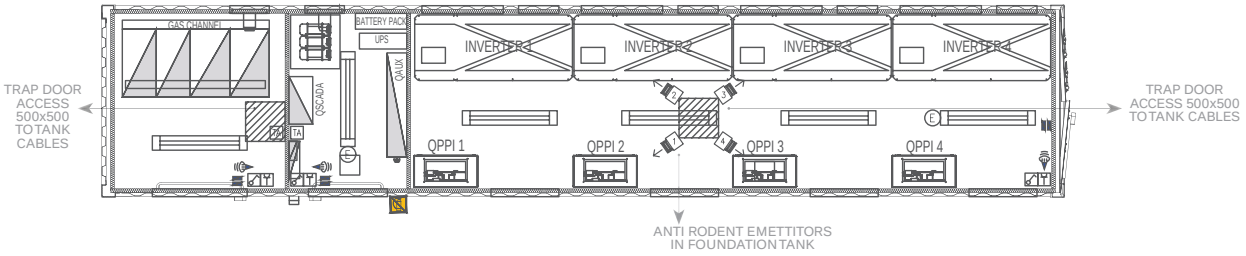
* Different configuration are available on request







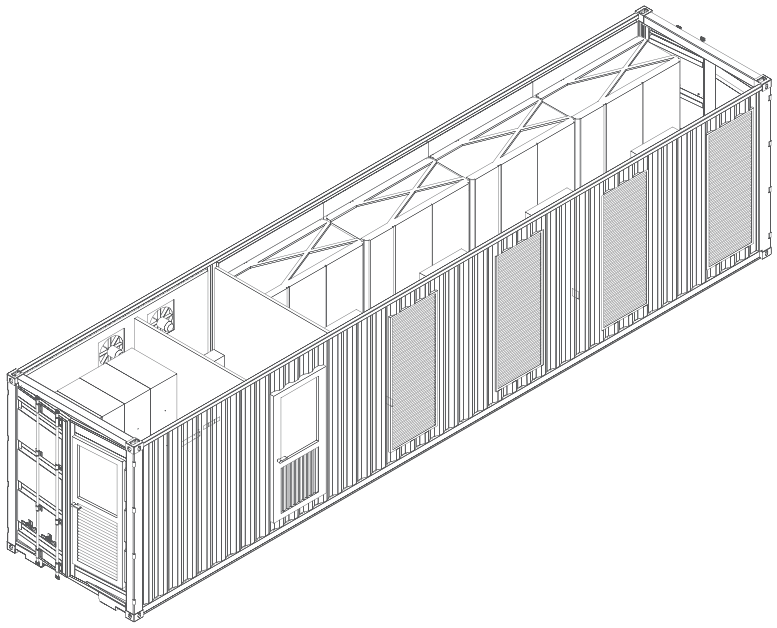




FOTOGALLERY.
CONVERSION CABIN

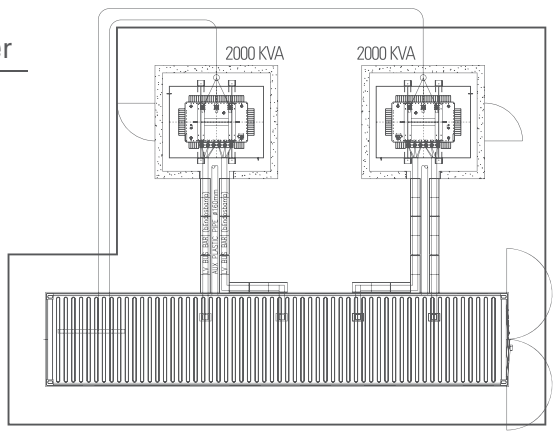
> MS 4400
> 4 Inverter R11015TL

Example MS 4400

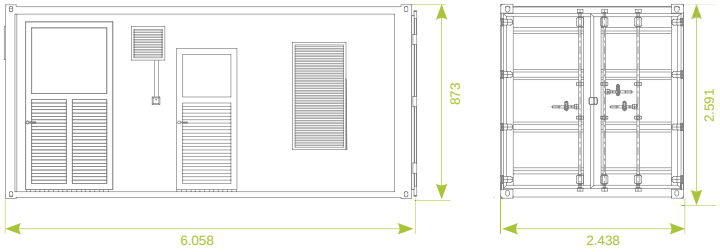


Example MS 4400 with oil transformer

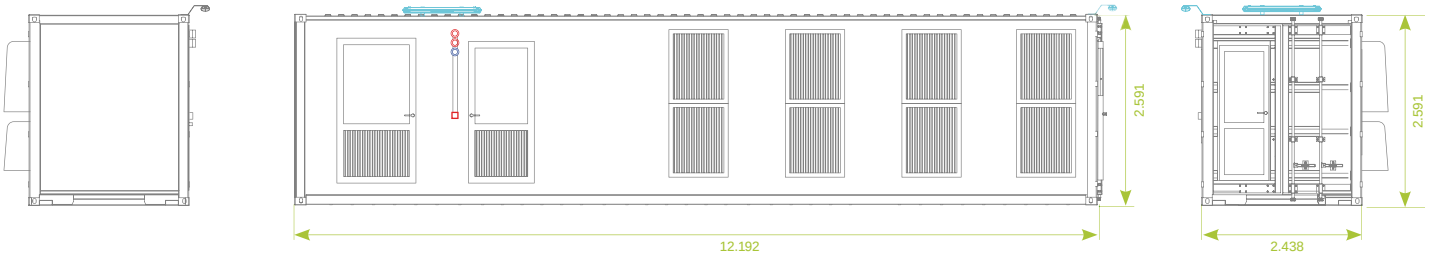
Another solution with oil transformer



MS 1100 (20ft.)
MS 2200 (20ft. or 40ft.)



MS 3300 (40ft.)
MS 4400 (40ft.)



Electrical Characteristics

		MS1100	MS2200	MS3300	MS4400
Max Voltage DC Side	V	1.500	1.500	1.500	1.500
Max Input DC Side	Nr.	7	14	21	28
Apparent Power AC Side	kVA	1'000	2'000	3'000	4'000
Max Voltage AC Side	kV	36	36	36	36

Megastation Composition

MV Switchgear		1	1	1	1
Power Transformer:					
3.000 kVA Outdoor	Nr.	-	-	1	-
2.000 kVA Ourdoor	Nr.	-	1	-	2
1.000 kVA Indoor	Nr.	1	-	-	-
Inverter:					
R11015TL	Nr.	-	-	2	4

Container

Metal Cabinet Inverter (40' HiCube)	Nr.	-	-	-	1
Metal Cabinet Inverter (20' HiCube)	Nr.	1	1	1	-

Accessories

Auxiliary Transformer		Yes	Yes	Yes	Yes
LV Board		Yes	Yes	Yes	Yes
UPS		Yes	Yes	Yes	Yes
Lighting system and sockets		Yes	Yes	Yes	Yes
Fire detection system		Yes	Yes	Yes	Yes
Monitoring Board		Yes	Yes	Yes	Yes
Lightning system and sockets		Yes	Yes	Yes	Yes
Ventilation system		Yes	Yes	Yes	Yes
Fixed power factor panel		Yes	Yes	Yes	Yes
Human presence		As option	As option	As option	As option
Door Detection		As option	As option	As option	As option
Anti-rodent protection		As option	As option	As option	As option
Environmental Sensors		As option	As option	As option	As option
Foundation		As option	As option	As option	As option

Different configuration are available on request

SBC

COMBINER BOX

1500V

COMBINER BOX

08 UP TO 24 PV STRINGS

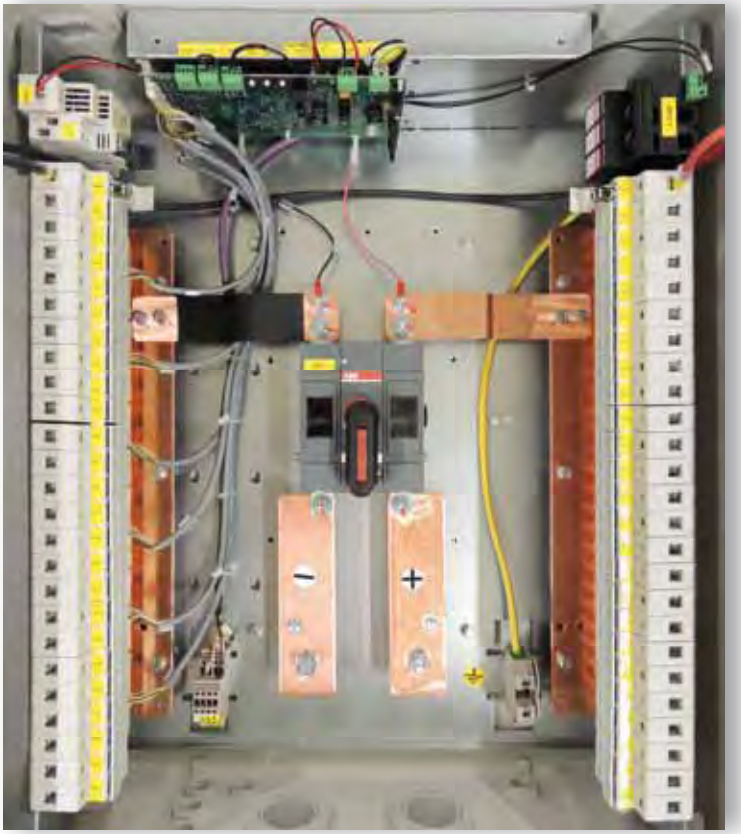
The FIMER Combiner boxes, SBC series, are intelligent control boxes (SMART) which allow the measurement of the current of each input PV string from the solar generator and allow the creation of the parallel output of all the strings of PV modules connected to them.

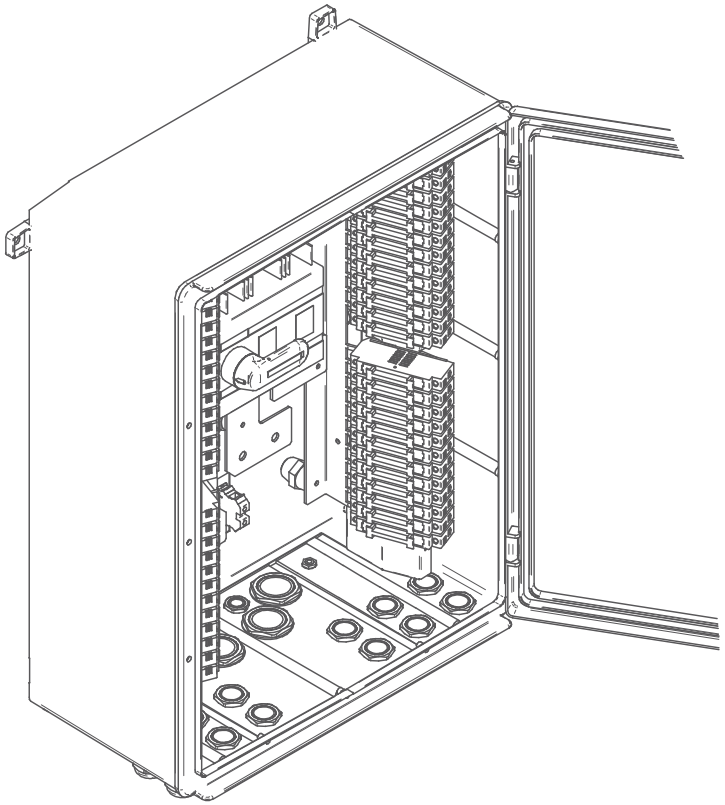
These high-performance devices implement the current measurement using Hall effect transducers and ensure an accurate localization of the malfunction of the PV field minimizing the production downtime and facilitating the timely and targeted intervention of Service. Each string box is equipped with protections against overvoltage implemented by SPD varistors, the switch in input is implemented by the fuse holders and in output by a switch; these devices allow to isolate the single sub-field PV or the individual strings from the solar generator, allowing operators to work safely. Through these advanced technology products you can also manage the complete control and monitoring of the PV field. The monitoring of the unbalance of currents (miss-matching) is built and available within the control logic of our inverters. Thanks to the string box FIMER, SBC series, is possible to control the solar installation, using the INTEGRATED Modbus RTU protocol, and in this way it's compatible with the most diffused communication systems on the market. Flexibility is first and foremost.

Gli Combiner box FIMER serie SBC, sono cassette di controllo intelligente (SMART) che consentono la misura della corrente di ogni singola stringa in ingresso dal generatore solare e permettono di realizzare in uscita il parallelo di tutte stringhe di moduli FV ad essi collegate.

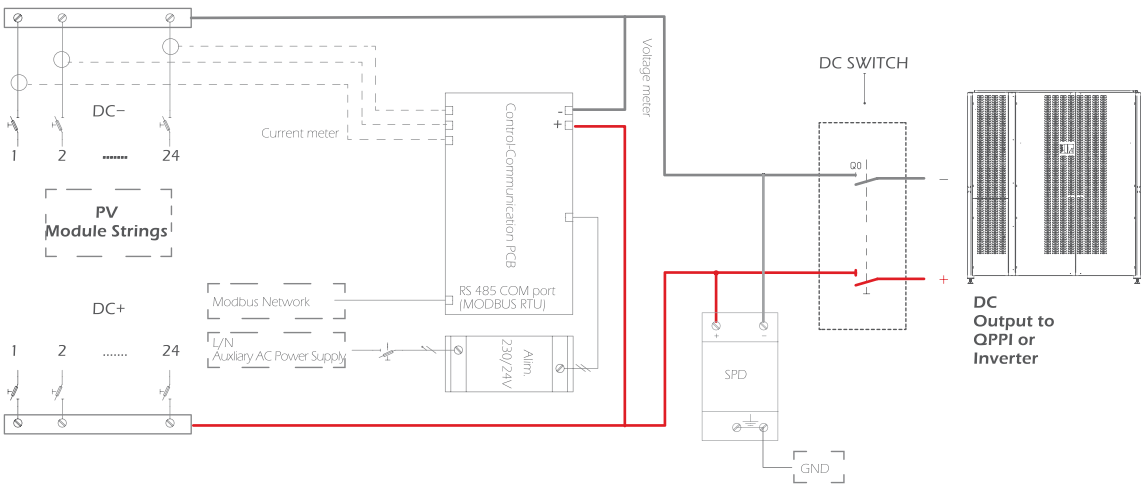
Questi prodotti, altamente performanti, implementano la misura delle correnti mediante trasduttori ad effetto Hall e favoriscono una puntuale localizzazione delle problematiche del campo FV minimizzando i tempi di mancata produzione ed agevolando l'intervento mirato e tempestivo del Service. Ogni cassetta è equipaggiata con protezioni a varistori SPD contro le sovratensioni; il sezionatore in uscita ed i portafusibili in ingresso permettono di isolare il singolo sotto-campo FV o le singole stringhe dal resto dell'impianto, consentendo agli operatori di lavorare in piena sicurezza. Grazie a questi prodotti ad avanzata tecnologia è anche possibile gestire tutti i sistemi di comunicazione del campo fotovoltaico. Il monitoraggio dello sbilanciamento delle correnti (miss-matching) è integrato e disponibile all'interno della logica di controllo dei nostri inverter. Grazie alle cassette di campo FIMER serie SBC è possibile infine dialogare, mediante il protocollo MODBUS RTU INTEGRATO, con tutti i sistemi di comunicazione presenti sul mercato. La flessibilità è prima di tutto.

COMBINER BOX



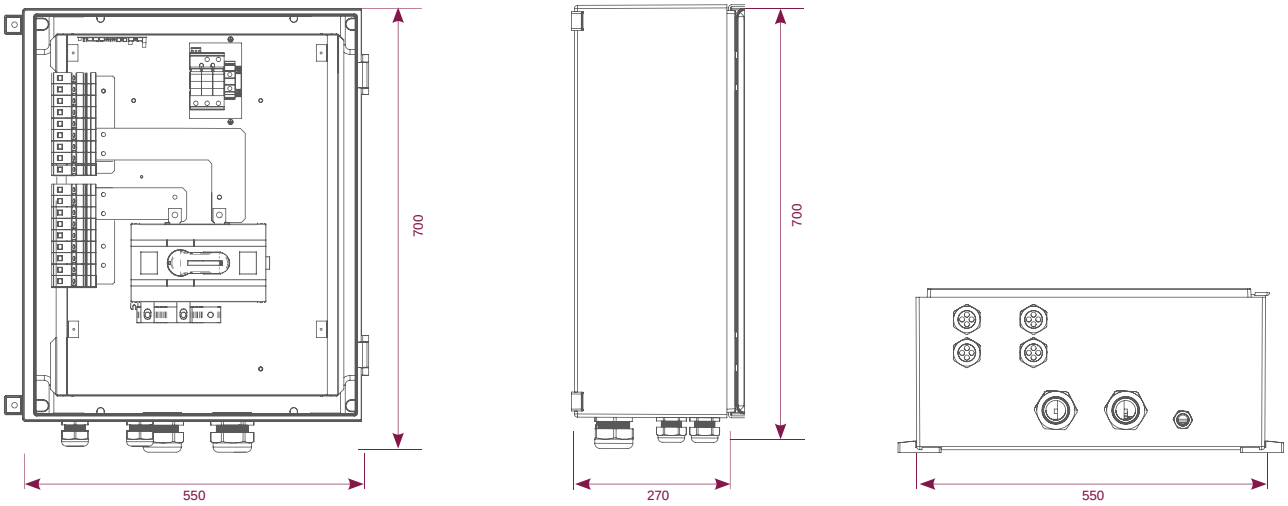


IP 20 CE



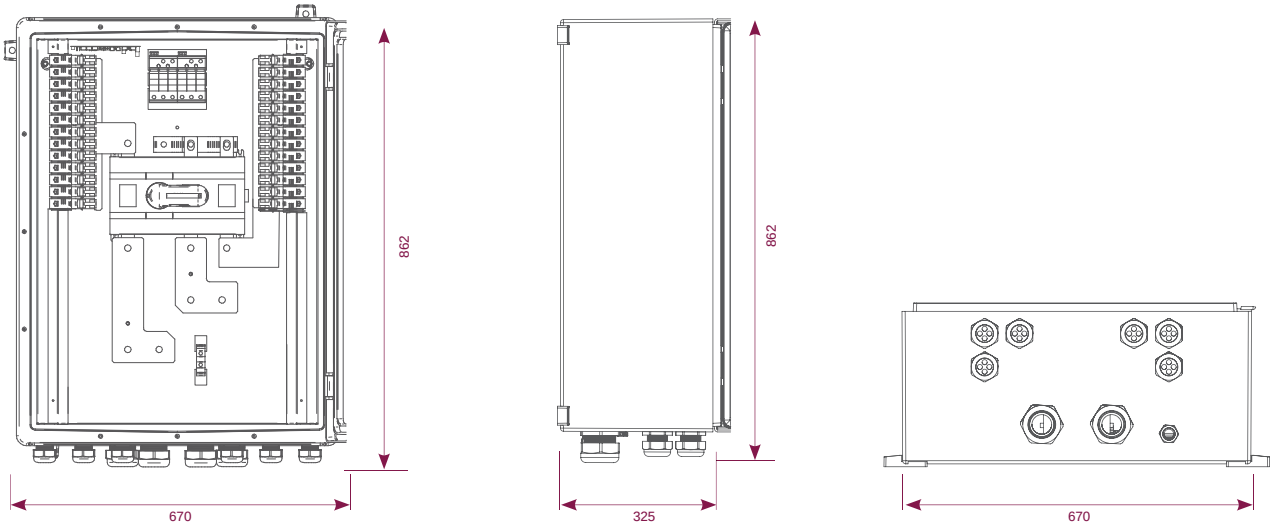
SBC 08

> Input nr 8 PV String



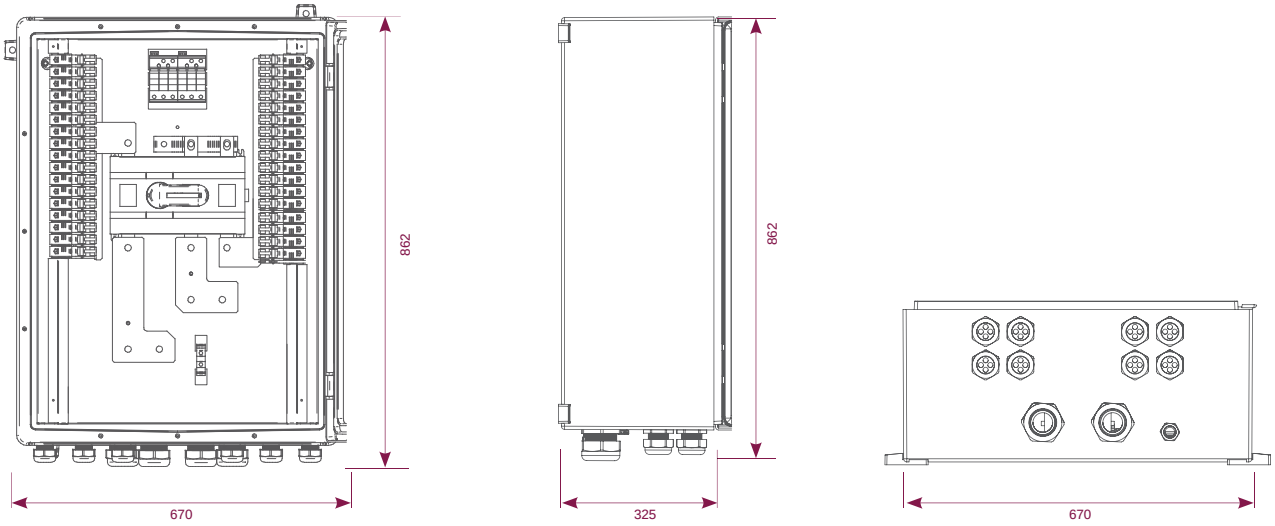
SBC 12

> Input nr 12 PV String



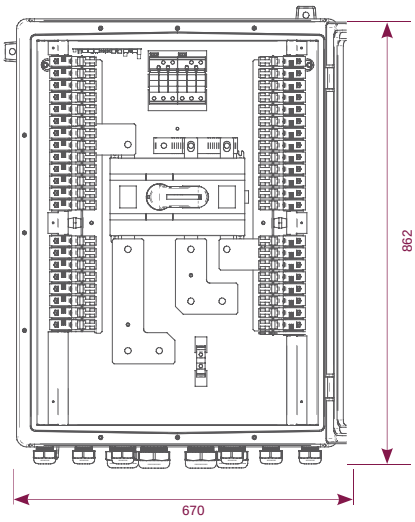
SBC 16

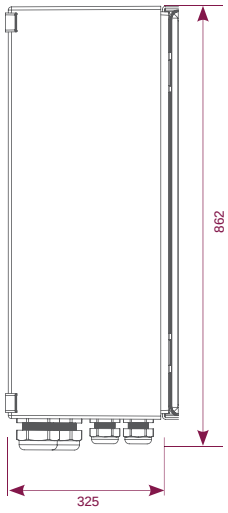
> Input nr 16 PV String

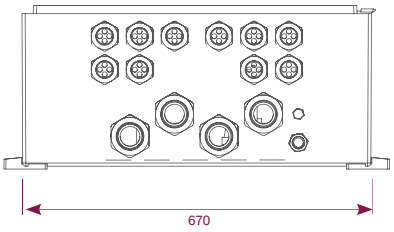


SBC 20

> Input nr 20 PV String

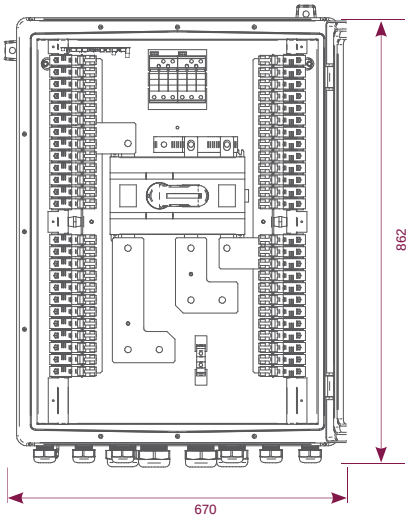


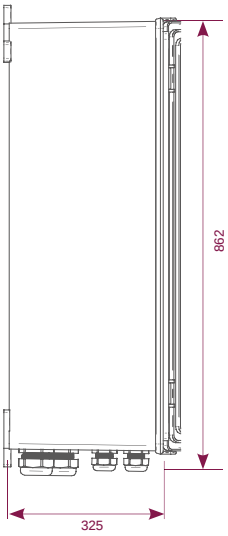


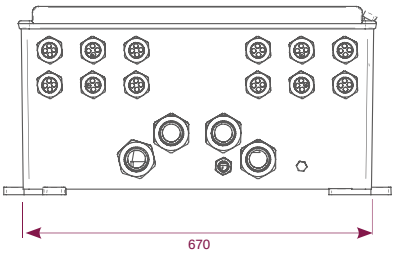


SBC 24

> Input nr 24 PV String







SBC 08 SBC 20 SBC 12 SBC 24 SBC 16

General data

Models	SBC 08	SBC 12	SBC 16	SBC 20	SBC 24
Combiner box	IA0.595.008	IA0.595.012	IA0.595.016	IA0.595.020	IA0.595.024
Combiner box with probe	IA0.596.008s	IA0.595.012s	IA0.595.016s	IA0.595.020s	IA0.595.024s
Max voltage (V_{CC})	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V
N° of DC+ input	8	12	16	20	24
N° of DC- input	8	12	16	20	24
SPD protection	SPD 1.500 V_{CC} CLASS II	SPD 1.500 V_{CC} CLASS II	SPD 1.500 V_{CC} CLASS II	SPD 1.500 V_{CC} CLASS II	SPD 1.500 V_{CC} CLASS II
Electronic equipment onboard	- Monitor single string current - Monitor V_{CC} - Monitor SPD status - Monitor internal temperature	- Monitor single string current - Monitor V_{CC} - Monitor SPD status - Monitor internal temperature	- Monitor single string current - Monitor V_{CC} - Monitor SPD status - Monitor internal temperature	- Monitor single string current - Monitor V_{CC} - Monitor SPD status - Monitor internal temperature	- Monitor single string current - Monitor V_{CC} - Monitor SPD status - Monitor internal temperature
Electronic equipment for probe monitor	- Analog input 0-5V/4-20 mA - Analog input 0-10 V - RTD PT100 4 wire - Digital input dry contact	- Analog input 0-5V/4-20 mA - Analog input 0-10 V - RTD PT100 4 wire - Digital input dry contact	- Analog input 0-5V/4-20 mA - Analog input 0-10 V - RTD PT100 4 wire - Digital input dry contact	- Analog input 0-5V/4-20 mA - Analog input 0-10 V - RTD PT100 4 wire - Digital input dry contact	- Analog input 0-5V/4-20 mA - Analog input 0-10 V - RTD PT100 4 wire - Digital input dry contact
Communication protocol	MODBUS RTU	MODBUS RTU	MODBUS RTU	MODBUS RTU	MODBUS RTU

Housing

Housing	GRP (Glass fiber reinforced polyester)	GRP (Glass fiber reinforced polyester)	GRP (Glass fiber reinforced polyester)	GRP (Glass fiber reinforced polyester)	GRP (Glass fiber reinforced polyester)
Door / Opening angle / Lock	Blind /> 120° / Standard	Blind /> 120° / Standard	Blind /> 120° / Standard	Blind /> 120° / Standard	Blind /> 120° / Standard
Housing Dimensions (DxWxH mm)	550x270x700	670x325x862	670x325x862	670x325x862	670x325x862
Weight	17.6 Kg	19.5 Kg	23 Kg	24.5 Kg	25.5 Kg
External protection degree	IP65	IP65	IP65	IP65	IP65
Open door protection degreeaperta	IP20	IP20	IP20	IP20	IP20
Safety class	II	II	II	II	II
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035

Environmental data

Operating temperature	-20 / +50 C°	-20 / +50 C°	-20 / +50 C°	-20 / +50 C°	-20 / +50 C°
Storage	-25 -60	-25 -60	-25 -60	-25 -60	-25 -60
Height above the sea (Note 2)	up to 2.000 m	up to 2.000 m	up to 2.000 m	up to 2.000 m	up to 2.000 m
Humidity	0-95% (non condensing)	0-95% (non condensing)	0-95% (non condensing)	0-95% (non condensing)	0-95% (non condensing)

DC input

Input cable entry	Cable gland	Cable gland	Cable gland	Cable gland	Cable gland
Input connection	Directly on fuse holder	Directly on fuse holder	Directly on fuse holder	Directly on fuse holder	Directly on fuse holder
Conductor cross section	4 - 6 mmq	4 - 6 mmq	4 - 6 mmq	4 - 6 mmq	4 - 6 mmq
Fuse Type	10x85 - 1.500V_{CC} - gPV	10x85 - 1.500V_{CC} - gPV	10x85 - 1.500V_{CC} - gPV	10x85 - 1.500V_{CC} - gPV	10x85 - 1.500V_{CC} - gPV
Fuse size (A_{CC})	Up to 20 A	Up to 20 A	Up to 20 A	Up to 20 A	Up to 20 A
N° fuse	16	24	32	40	48
Range current sense	± 25A	± 25A	± 25A	± 25A	± 25A
Accuracy	0.5% f.s.	0.5% f.s.	0.5% f.s.	0.5% f.s.	0.5% f.s.
Current reading tipology	Hall effect	Hall effect	Hall effect	Hall effect	Hall effect

DC Output

Output cable gland	2xPG29 (*)	2xPG29 (*)	2xPG29 (*)	2xPG29 (*)	2xPG29 (*)
Clamping Area	18-25 mm	18-25 mm	18-25 mm	18-25 mm	18-25 mm
Conductor material	Copper	Copper	Copper	Copper	Copper
Terminal type	Screw M10	Screw M10	Screw M10	Screw M10	Screw M10
Voltage DC switch	1.500 V_{CC}	1.500 V_{CC}	1.500 V_{CC}	1.500 V_{CC}	1.500 V_{CC}
Current DC switch (DC-21B)	160 A (*)	160 A (*)	250 A (*)	250 A (*)	250 A (*)

(*) Contact factory for different value

Warnings: to feed the electronic devices of the string box control unit is required an auxiliary external single-phase power supply 230 VAC (L + N).
Please note that the string box doesn't contain blocking diodes.

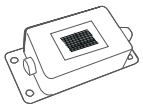
ACCESSORIES

COMBINER BOX

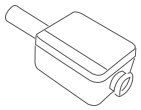
1500V

Exthernal accessories - Combiner Box 1.500V

ENVIRONMENTAL SENSOR BOX (Note1)

	> IA0.580.010	Irradiation sensor.

ANEMOMETER (Note1)

	> IA0.580.011	Environmental temperature sensor.

FW UPDATE USB KEY

	> IA0.580.013	PV module temperature sensor.

SHUNT RELEASE

	> IA0.580.019	Releasing coil that operating at minimum voltage on the output DC switch (powered at $230V_{AC}$) suitable for SBC04 - SBC08 - SBC12.
	> IA0.580.020	Releasing coil that operating at minimum voltage on the output DC switch (powered at $230V_{AC}$) suitable for SBC16 - SBC24.
	> IA0.580.024	Releasing coil that operating in current mode on the output DC switch (powered at $230V_{AC}$) suitable for SBC04 - SBC08 - SBC12.
	> IA0.580.022	Releasing coil that operating in current mode on the output DC switch (powered at $230V_{AC}$) suitable for SBC16 - SBC24.

FIMER THE GROUP	*COVER*

R18615TL Inverter
Data sheet

FIMER THE GROUP

INVERTER R18615TL

INVERTER R18615TL series Technical Datasheet	
DC Side	**R18615TL**
Conversion Stack	10
V_{DC}	< 1'500V
V_{MPP} range	900 – 1'320V
I_{DC}	< 2'000A
Overvoltage Protection	SPD - Class I+II
AC Side	
System	3Phases (L1-L2-L3-PE)
Nominal Power	1'550kVA up to 20°C 1'465kVA @ 45°C 1'352kVA @ 50°C
Power Capability	$0,8_{CAP}$ ... $0,8_{IND}$
Operating Voltage	570V $\pm$10%
Frequency	50/60Hz
Max Current	1'575A
Overvoltage Protection	SPD - Class II
Conversion Data	
Euro Efficiency	98,62%
Maximum Current Imbalance	< 2%
THDi	< 3%
Static Efficiency MPP	> 99,9%
Dynamics Efficiency MPP	> 99,8%
General Data	
Degree Protection inside the cabinet	IP20 (IEC60529)
Degree Protection with connections door open	IP20 (IEC60529)
Degree Protection with conversion door open	IP00 (IEC60529)
Operating Ambient Temperature	-10 ... + 55°C
Storage Temperature	-20 ... + 60°C
Humidity	< 95%
Noise Level	< 70dB
Color	RAL9006
Dimensions (DxWxH)	1'750x825x2'000
Weight	~ 1'600kg

CONVERT TRJ

SINGLE AXIS TRACKER

the **future** is on **track**

CONVERT

sales@convertitalia.com | www.convertitalia.com

BEARING TRANSMISSION

Spherical self lubricated plain bearing of Convert design to compensate inaccuracies and error in mechanical structure installation

CONTROL BOARD

Easy to install and self-configuring control board. The integrated GPS always triggers the right geographical location to the system for solar automatic tracking

DRIVEN GEAR

“Independent raw” solution, with unique independent double dust protection ring AC engine

STRUCTURE

Completely balanced and modular, the TRJ structure does not require specialized personnel for installation and assembly

CONVERT **TRJ** - TECHNICAL **DATA SHEET**

TECHNICAL SPECIFICATION

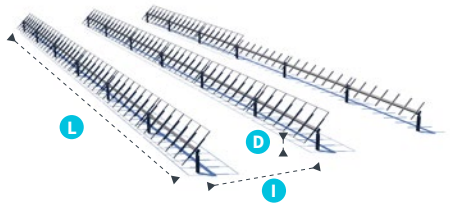
Tracker type	Horizontal single axis North-South alignment and East-West tracking with backtracking and indpendent rows
Tracking control system	Control system controlled by astrnomical clock; self-configuring; no sensor required
Maximum tracking error	± 1° (-0,015% power max)
Control system architecture	1 electronic control board for 10 rows with GPS system integrated and anemometer for wind safety
PV-modules type	Crystalline pv - modules
Number of modules per row	From 30 up to 42 pv modules per row
Max. peak power per tracker	Up to 13,44 kWp @ pv - modules 320 Wp
Rotation angle	Up to ± 55°
Driven gear	1 linear actuator (IP65) per row: 230V -50 Hz (CE); 240V -60 Hz (CE,UL)
Power supply and consumption	- GRID POWER AC input (27 kWh/year per tracker) - SELF-POWERED from PV-modules (no battery, no grid, patented system)
Monitoring and data feeds	Real-time local or remote communication data provided via ModBus from control board to SCADA
Communication	- WIRE - RS485 cable between electronic control board and SCADA - WIRELESS network
Maximum wind speed	According to the local codes
Foundation	Driven pile; ground screw; concrete
Grounding method	Self-grounding structure
Material	Galvanized steel
Ground coverage ratio	Configurable on the basis of project design: from 0.35 to 0.50
Availability	> 99%
Warranty	10 years on structure components; 5 years on drive and control system

INSTALLATION TOLERANCE

ASSEMBLY ERROR RECOVERY

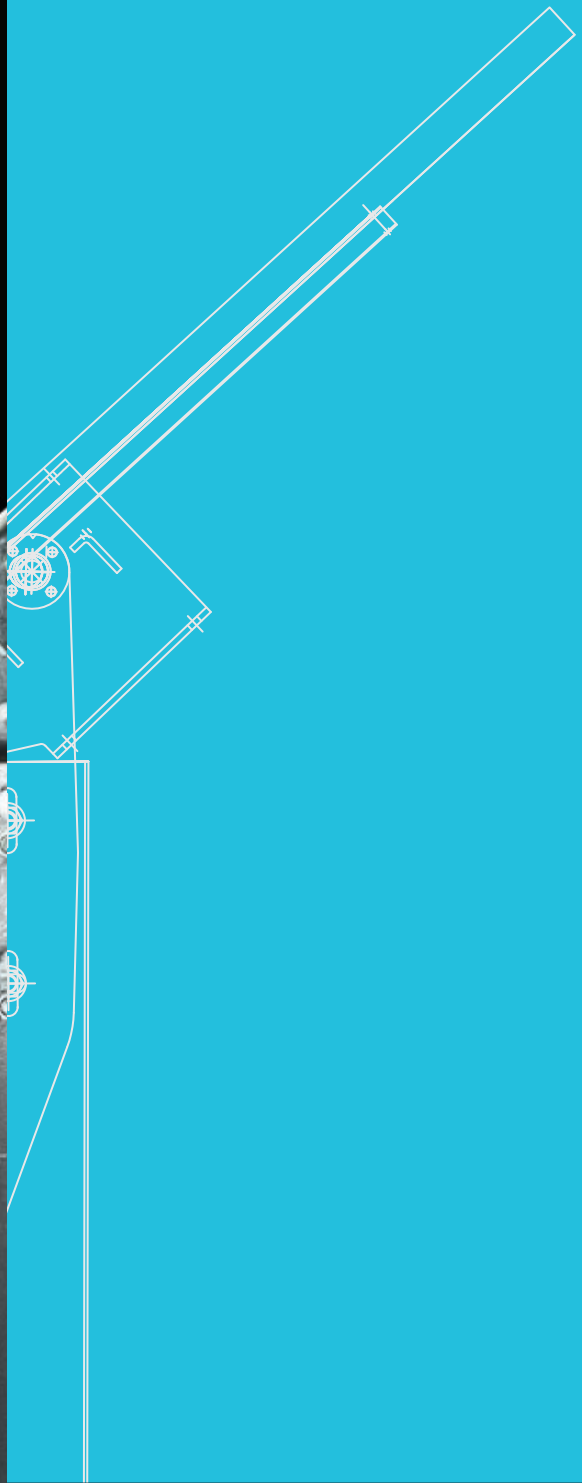
Height	± 20 mm
North/South	± 35 mm
East/West	± 20 mm
Inclination	2°
Twist	5°
Land grading	± 3° North/South; no limitation East/West

CONFIGURABLE FOR SPECIFIC PROJECT



- **I** **Inter-axis** min. dimension: **4 m**
- **L** **Lenght** from **31** to **43 m**
- **D** **Height above ground** **0,35 m**

PLUG & TRACK



CONVERT

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CONVERT **TRJ**

SINGLE AXIS TRACKER

Technical Data Sheet
English Version

CONVERT

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CONVERT **TRJ** - TECHNICAL **DATA SHEET**

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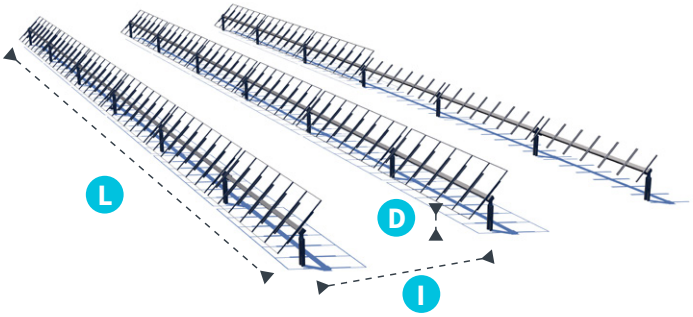
Availability	> 99%
Warranty	10 years on structure components; 5 years on drive and control system

INSTALLATION TOLERANCE

ASSEMBLY ERROR RECOVERY

Height	± 20 mm
North/South	± 35 mm
East/West	± 20 mm
Inclination	2°
Twist	5°
Land grading	± 3° North/South; no limitation East/West

CONFIGURABLE FOR SPECIFIC PROJECT



I **Inter-axis**
min. dimension: **4 m**

L **Lenght**
from **31** to **43 m**

D **Height above ground**
0,35 m

CONVERT

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