

MasterSol CS series



Central String inverter
with high efficiency

Outstanding
functional design

Fully compatible with
any type of PV module

Quick & straightforward
installation

Easy maintenance

Maximum efficiency functional design



 **MASTERVOLT**

THE POWER TO BE INDEPENDENT



MasterSol CS series: Central String inverter that fits your system

State-of-the-art specifications

Based on Mastervolt's experience, know how and ongoing development the MasterSol CS provides you with a very high efficiency of more than 98%. Two MPP trackers and a broad input voltage range (1000 V) gives you ultimate flexibility when designing your system. For outdoor mounting the MasterSol is equipped with an IP65 sealed electronics compartment to provide optimal protection against water and dust. A clear, graphical display with 365 day datalogger informs you about performance and historical data.

Quick installation, easy maintenance

The MasterSol CS comes with a waterproof AC plug for quick and flexible installation. The integrated handles assist you to move the CS with great ease and assure simple installation. A mounting bracket for quick wall mounting is also included. Once the MasterSol CS is installed it requires very little maintenance. The fan module is removable for easy cleaning; the communication drawer is fully removable for easy wiring.

Flexible and compatible

The MasterSol CS is compatible with any type of PV module and with amorphous and thin-film solutions using optional transformers when required. The OPTIMA COOLING system provides improved efficiency and a long life. Two MPP trackers and a high input voltage provides optimal design flexibility and minimizes the number of strings.

Options

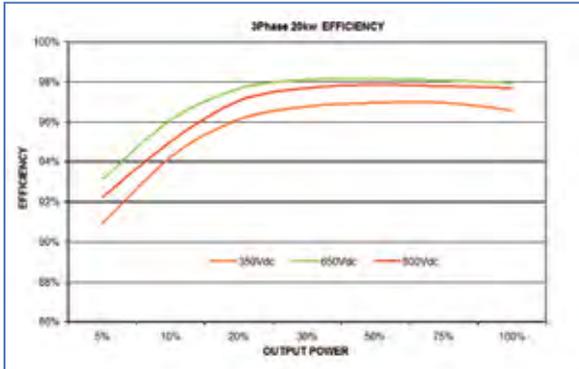
- StringMaster distribution box with integrated DC switch and string current monitoring;
- CS IT20 isolation transformer in ruggedized enclosure;
- Mastervolt monitoring solutions available.

More information?

Feel free to contact Mastervolt or one of our business partners, or visit www.mastervolt.com

MasterSol CS series

supreme benefits



High efficiency of > 98 %.



Mounting bracket: Quick and easy wall mounting.



Integrated handles: Easy installation for two persons.



Sealed IP65 electronics compartment. The OPTIMA COOLING system improves efficiency.



Waterproof AC plug included for quick and flexible commissioning.



Graphical display with full datalogger functionality.



Full range of monitoring solutions available.

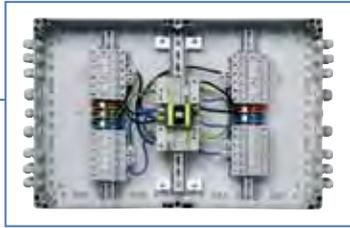


Removable communication drawer.



Easy maintenance: Removable fan module.

Options



StringMaster distribution box

The strings are connected in a string box, which is installed between the PV array and CS inverter. The high DC loads and currents require top quality and safe components. The varistors in the StringMaster reduce the risk of lightning strike damage to the PV array, cables and inverter. The advanced CS Pro version also offers individual electronic current measurements for each string. String errors, such as incorrect polarity or low currents, are automatically detected by the system. These are then communicated to the MasterSol CS, where they are immediately displayed.



CS IT20 isolation transformer

Manufacturers require certain thin film and back contact crystalline PV panels to be earthed on the DC side. The CS IT20 isolation transformer applies these panels in the best possible way in combination with the CS15TL and CS20TL inverters. The use of high-quality materials ensures an excellent output, while the offline function reduces night consumption to zero. The robust IP54 casing is suitable for outside installation and fitted with a regulated fan with an easily replaceable filter. The casing consists of several individually removable parts that block the hosting eye from view and simplify installation while keeping cables and clamps easily accessible.

Technical specifications



StringMaster CS 2-6 SW
131300300



StringMaster CS 2-6 SW PRO
131300200

Article no.

GENERAL SPECIFICATIONS

Operating temperature	-20 °C till 60 °C	
Relative humidity	10 – 90%, non condensing	
Protection degree	IP65	
Safety class	class II	
Dimensions (hxwxd)	600x400x130 mm	600x400x210 mm
Weight	8 kg	16 kg
Color	RAL 7035	
Product warranty	5 years	
Nmax. Uoc (UDC)	1000 V	1000 V
Max. Imp (ADC)	15 A	15 A
Max. string IN	12	12
Connection – IN	screw clamp up to 10 mm ²	
Fuses (string cable protection) (positive & negative ends)	4-15 A 12 dummy fuses are included	
Overvoltage protection	1000 V, type II	
Connection – OUT	screw clamp up to 16mm ²	screw clamp up to 25mm ²
Max. ambient temperature	45 °C	
Material	polycarbonate (PC)	
Cable entry	DIN cable glands M16/M20	DIN cable glands M16/M25
String current monitoring	no	yes
Polarity fault indication	no	yes
MasterBus connectivity	no	yes



CS IT20
131300100

Article no.

GENERAL SPECIFICATIONS

Operating temperature	-20 °C till 60 °C
Relative humidity	10 – 90%, non condensing
Protection degree	IP54
Safety class	class I
Dimensions (hxwxd)	795x745x380 mm
Weight	± 150 kg
Color	RAL 7035
Product warranty	5 years
Primary voltage (UAC)	360 V-380 V-400 V
Secondary voltage (UAC)	400 V
Frequency (FAC)	50/60 Hz
Vector group	YNyn0
Connection – IN (inverter)	screw clamp up to 16 mm ²
Circuit breakers	yes, at the grid connection
Connection – OUT (grid)	screw clamp up to 16 mm ²
Max. ambient temperature	45 °C
Material	galvanized and powder coated steel
Cable entry	2x M50, 1xM30

Technical specifications



MasterSol CSI 5TL

Article no. 131200150



MasterSol CS20TL

Article no. 131200200

GENERAL SPECIFICATIONS

Operating temperature	-20 °C to 60 °C (full power up to 50 °C ambient)	
Enclosure	powder coated aluminum	
Protection degree	IP65 electronics for outdoor application	
Relative humidity	0-90% non condensing, protective PCB coating	
Safety class	class I	
Galvanic isolation	yes, with isolation transformer IT20 (optional)	
Weight	65 kg	
Dimensions (hxwxwd)	971 x 647 x 242 mm	

SOLAR INPUT (DC)

Recommended PV power range	14-19 kWp	18-25 kWp
Maximum power	17 kW DC	22 kW DC
Start-up power	40 W	
Operating voltage	250-950 V	
MPP voltage range @ nom. power	350-800 V	
Nominal voltage	650 V	
Absolute max. voltage	1000 V	
Number of inputs	2 MPP trackers and 2 inputs of 4 Multi Contact 4mm connectors	
Rated current	2 x 23 A (can be paralleled)	2 x 30 A (can be paralleled)
Typical string configurations	4 inch: 5 or 6 strings per input	
	5 inch: 3 or 4 strings per input	
	6 inch: 2 or 3 strings per input	
String connections	string (2x6) box with DC switch, string fuses, surge protection and string current (optional)	
Functional PV array grounding	yes, with optional transformer box	

GRID OUTPUT (AC)

Voltage	400 V x 3 Ph -20% / +20% (3-phase, 3 wire)	
Nominal power	15 kW @ 400 V ± 10%	20 kW @ 400 V ± 10%
Maximum power	15.75 kW	21 kW
Nominal current	3 x 22 A	3 x 30 A
Frequency	50 Hz / 60 Hz	
Power factor	> 0.99 at full power	
Harmonic distortion	< 3%	
DC current injection	integrated	
Earth leakage switch (AC/DC)	integrated	
Stand-by power	< 2 W	
EU efficiency	> 96,5%	> 97%
Maximum efficiency	> 98%	
AC connector	IP67 3-phase, suitable for 4 and 6 mm ² cables	
Fuse	internal PCB fuses	

REGULATIONS & DIRECTIVES

CE conformity	yes
Nat. grid requirements	VDEW; VDE0126-1-1; DK5940; RD1663; G59; Synergrid C10/11

SYSTEM INFORMATION / DIAGNOSTICS / COMMUNICATION

User interface	multi-language graphical LCD display
Diagnostics	365 days datalogger and real time clock
Communication	2x RS485 connections / MasterBus field service interface / MasterBus string box interface

Subject to alterations. For our complete product range please visit www.mastervolt.com