

S600D Series

EURO SERIES DC/DC CONVERTER

FEATURES

- 300 - 500W
- Industrial Grade DC/DC Converter
- High Operating Temp
- Hot Pluggable
- Wide Input Voltage
- Configurable Options
- Eurocassette Mounting
- Wall Mounting
- Chassis Mounting
- DIN Rail Mounting



SPECIFICATIONS

INPUT	
Input Voltage	DC Input voltage: 10 - 800Vdc See selection table Units will turn off with under or over input voltage.
No-load Input Power	5-6W model (series dependent)
Switch on Time	1-2 seconds.
OUTPUT	
Output voltage	Voltage range; 4.5 - 400Vdc See selection table
Output current	See selection table.
Ripple & noise	1% + 30mVpp
Line regulation	0.1% ($\pm 10\%$)
Load regulation	0.2% typical, load step 10-90%
Load transient	6% typical, load step 10-90%
Response time	2-3ms typical $\pm 1\%$
Temperature coefficient	0.02% per °C typical.
Holdup time	10ms at 220VAC typical
Turn on rise time	100ms typical (soft start)
Remote sensing	Standard for all series
Efficiency	80%-92% typical
Output Options	Option dd: Decoupling Diode for redundant / parallel operation Option cs: Active Current Sharing Option h: Remote on/off (inhibit) Option dr: DC OK via relay contacts
PROTECTION	
Overload protection	Current limited at 105%–110% of full load.
Overvoltage protection	OVP switches off module with automatic return to operation
Protection Options	Option i: Inrush Current Limiting Option sd: Reverse polarity protection for DC input by Series Diode
MTBF	100Khrs to 140Khrs at 40°C acc. to MIL-HDBK-217E (notice 1)

ENVIRONMENTAL	
Operating temperature	-20°C to +75°C (optional -40 to 75°C)
Load derating	Derate 2.5% per °C, from +55°C to 75°C
Cooling	H: Heatsink - natural convection F: Fan - increased airflow recommended TF: Temperature controlled Fan included See selection table
Environment Options	Option c: Extended temperature range to -40°C
Storage temperature	-40°C to +85°C
Humidity	Up to 95% RH, non-condensing
STANDARDS	
EMI standards	acc. to EN61000-6-4 class A, optionally class B
Immunity standards	acc. to EN61000-6-2
C-Tick	AS/NZS CISPR11: 2002 Group1 Class A
Safety / Construction	acc. to EN60950-1 / EN50178
Protection category	IP20 acc. to EN60529 NEMA or others on request
MECHANICAL	
Mounting	See technical illustrations Eurocassette, pluggable module for 19" subrack Option w: Wall Mounting Option cha: Chassis Mounting
Dimensions	See Technical illustration
Connector	H15 acc. to DIN 41612 H15 and high current connectors for I > 50A, or terminals / bolts / bars
Mechanical Options	Option ms: Increased Mechanical Strength Option t: Tropical protection
19" Rack Mounting Options	Subrack Height 3U, 5U, 6U Wiring, Front Panels Accessories: Fuses, MCBs, Mains on/off switch Contact Powerbox for rack configuration

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SELECTION TABLE

INPUT 10-16 VDC	OUTPUT AMPS	INPUT 18-36 VDC	OUTPUT AMPS	INPUT 36-75 VDC	INPUT 45-90 VDC	INPUT 80-160 VDC	INPUT 160-320 VDC	INPUT 320-380 VDC	OUTPUT AMPS	COOLING HEATSINK	OUTPUT VOLTAGE	VOLTAGE ADJUSTMENT
S600	30	S620	50	S630	S640	S650	S670	S680Z	50	H	5	4.5 – 5.5
S601	20	S621	30	S631	S641	S651	S671	S681Z	32	H	9	8 – 10
S602	15	S622	24	S632	S642	S652	S672	S682Z	26	H	12	11 – 13
S 603	12	S623	20	S633	S643	S653	S673	S683Z	22	H	15	14 – 16
S604	8	S624	12	S634	S644	S654	S674	S684Z	14	H	24	23 – 26
S605	7	S625	10	S635	S645	S655	S675	S685Z	12	H	28	26 – 30
S609	4.4	S629	6	S639	S649	S659	S679	S689Z	6.5	H	48	45 – 55
S606	3.6	S626	5	S636	S646	S656	S676	S686Z	5.2	H	6	08 – 68
S607	1.8	S627	2.5	S637	S647	S657	S677	S687Z	3.1	H	10	100 – 130
S 608	0.9	S628	1.25	S638	S648	S658	S678	S688Z	1.5	H	220	200 – 250

Note - Cooling H: Heatsink - Natural Convection / F: Fan - increased airflow recommended / TF: Temperature controlled Fan included
See selection table

OPTIONS

Model Designation: Add the designation of options to the model number, eg. C3674-dd-dr-cs
Options for Input, Output, Environmental and Mechanical follow.

19" Rack Mounting: Subrack Height 3U, 5U, 6U
Wiring, Front Panels
Accessories: Fuses, MCBs, Mains on/off switch
Contact Powerbox for rack configuration

INPUT OPTIONS

Option "i"	(inrush current limiting): A thermistor is connected in series with the input lines which changes its resistance from high to low when it gets hot. It does not reduce the current surge if the input power is interrupted for a short period of time not allowing the thermistor to cool down. Thermistors are fitted as standard to all mains input models except for 1-phase input of models > 2.5kW. Thermistors are available up to 45A. For higher input current an electronic inrush current limitation can be offered.
Option "ie"	electronic inrush current limiting An electronic circuit limits the inrush current.
Option "sd"	(series diode): A series diode protects the module against input voltage of wrong polarity (additional power losses).
Option "ad"	(anti-parallel diode): To avoid the power losses of a series diode a diode is provided with opposite polarity in parallel to the input blowing an internal or external fuse if the module is connected to a supply with wrong polarity.
Option "au"	(auto-ranging) For standard dual AC input models the range of 115/230Vac is to be selected by connecting the input line to different pins on the connector. With auto-ranging the unit senses the input voltage and provides automatically the correct connection.
Option "p"	(power fail): A signal (logic or relay) is given if the input voltage (AC or DC) drops below the specified limit. In AC input units we sense the rectified input voltage so that a power fail alarm will not be triggered if at light loads mains power returns before the input capacitors are substantially discharged.
Option "r"	(relay): A relay instead of a logic signal is provided for failure indication.

OUTPUT OPTIONS

Option "dd"	(decoupling diode): For redundant operation the outputs of two or more units are paralleled behind de-coupling diodes so that an internal fault of one module does not affect the operation of the others. These diodes cause power losses.
Option "cs"	(active current sharing): An additional control circuit provides active current sharing via an interconnecting wire between converters that operate in parallel. Active current sharing should be used for multi-output units operating in parallel.
Option "csi"	(current sharing interrupt): Option "csi" will effect the removal of the "cs" signal. Should there be an instance where a unit is not supplying the load, then the effect of its "cs" signal is removed, and the load voltage is unaffected by this condition.
Option "h1"	(inhibit): A terminal connected to the negative input line also shuts off the converter. This can also be used in conjunction with a thermal trip which shuts the unit down.
Option "h2"	(inhibit): Operation of the unit is inhibited if a voltage signal (5V/10mA) is applied in reference to the negative line of the (main) output.
Option "rco"	(reducing current limiting at over temperature) A circuit reduces the current limiting level at higher temperature (to be specified).
Option "d"	(DC-ok, one output): A logic signal is given if the output voltage (main output in multi-output systems) is below the specified limit.
Option "m"	(DC-ok, all outputs): In multi-output systems a logic signal is provided if the voltage of any output is below the specified limit.
Option "ac"	(AC ok) A logic signal connected to relay contacts is given if the output voltage of an inverter is below the specified limit.
Option "y"	(sys-reset): This logic signal is a combination of power fail and DC-ok as specified for VME systems.
Option "r"	(relay): A relay instead of a logic signal is provided for failure indication.

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OPTIONS

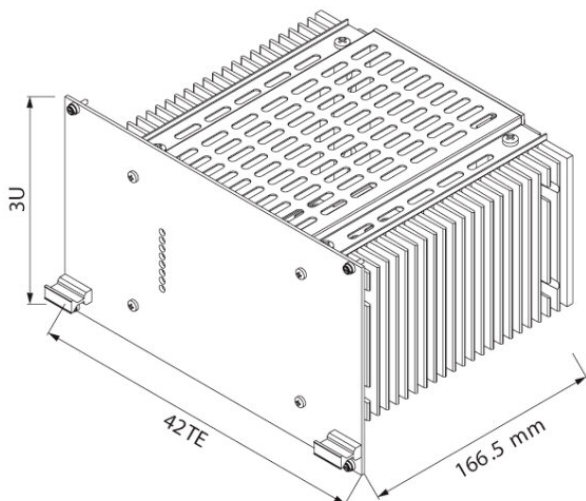
ENVIRONMENT OPTIONS

Option "t"	(tropical protection): The unit is given additional protection by a heavy coat of varnish on the printed circuit board(s) and components.
Option "c"	(extended temperature range): The circuit is designed and tested for operation at an ambient temperature as low as -40°C .
Option "ms"	(increased mechanical strength): Screws are secured by Locktite and heavy components are fastened by ties and/or glue. Modules with the "ms" option meet the standard EN61373 regarding shock and vibration.

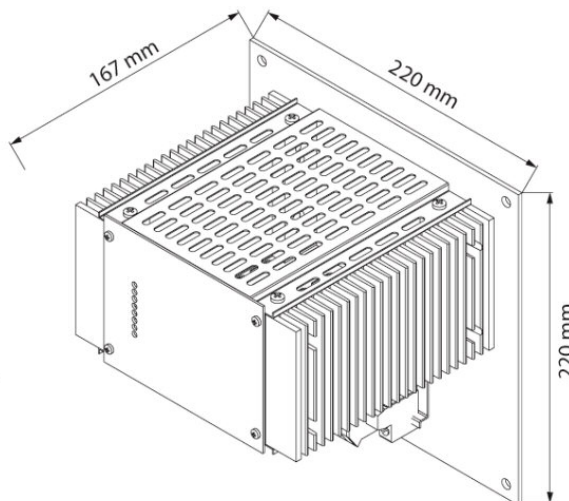
MECHANICAL OPTIONS

Standard mounting	"Eurocassette" pluggable module for 19" sub-racks 8
Option "w"	(wall mounting): Module is screwed against a mounting plate for installation in a cabinet. The load connections are typically a terminal block.
Option "cha"	(chassis mount) Module is designed for installation to a structure or within cabinet. Screw type connectors are supplied with the module.
Option "din"	(DIN rail mount) Module is designed for DIN rail mounting to a structure or within Cabinet. Screw type connectors are supplied with the module.

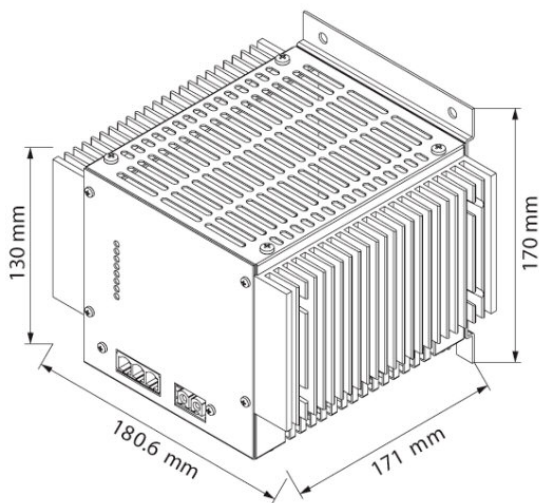
TECHNICAL ILLUSTRATIONS



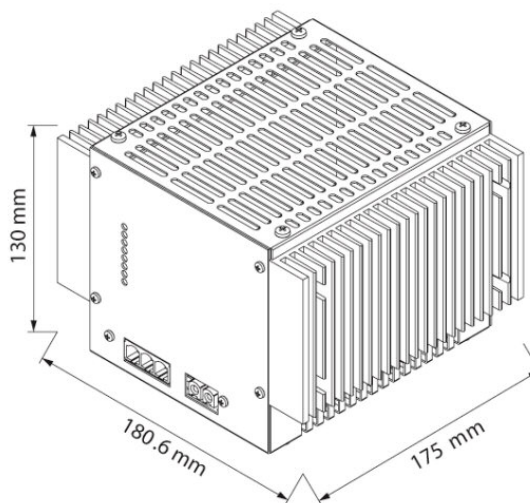
Eurocassette / approx. 2.6 kg
(pluggable module for 19" sub-rack)



Wall mount / approx. 3.6 kg



Chassis mount / approx. 3.1 kg



DIN rail mount / approx. 3.0 kg