CRS-120

100…140W SINGLE OUTPUT DC/DC CONVERTERS

GENERAL FEATURES:

- High input-output isolation
- Standard size Eurocard 3U
- Adjustable output voltage
- Remote sensing
- Input voltage OK LED
- Output voltage presence LED
- Remote inhibit
- Efficiency up to 89%

	12Vin 9V … 15V	24Vin 18V … 30V	48Vin 36V … 72V	72Vin 50,4V … 90V	110Vin 77V … 144V	220Vin 165V … 275V
5Vout	**CRS-120-6761** 100W	**CRS-120-6765** 100W	**CRS-120-6769** 100W	**CRS-120-6773** 100W	**CRS-120-6777** 100W	**CRS-120-6781** 100W
12Vout	**CRS-120-6762** 100W	**CRS-120-6766** 120W	**CRS-120-6770** 120W	**CRS-120-6774** 120W	**CRS-120-6778** 120W	**CRS-120-6782** 120W
24Vout	**CRS-120-6763** 120W	**CRS-120-6767** 120W	**CRS-120-6771** 140W	**CRS-120-6775** 140W	**CRS-120-6779** 140W	**CRS-120-6783** 140W
48Vout	**CRS-120-6764** 120W	**CRS-120-6768** 120W	**CRS-120-6772** 140W	**CRS-120-6776** 140W	**CRS-120-6780** 140W	**CRS-120-6784** 140W

Several references are subjected to special MOQs and lead times. Please consult Premium's Sales Dept. and web site.

INPUT	
Input voltage range	See table
Input undervoltage shutdown	55% to 60% Vi nom
Maximum allowed input ripple	5% Vin nom (Vrms at 100Hz)
OUTPUT	
Output voltage	See table
Output voltage adjustment	-10% ... +15% Vo nom -10% ... +25% Vo nom for 12V output models
Line regulation (Io = nom)	< 0,2 % (Io = nom)
Load regulation (Vin = nom)	< 0,2 % (Vin = nom; Io: 0…100%)
Ripple	< 50 mVpp
Noise (BW = 20MHz)	< 100 mVpp
ENVIRONMENTAL	
Storage temperature	-40ºC … 85ºC
Operating temperature range at Io= 100%	-25ºC ... 60ºC (-40°C … 60ºC, see note-1)
Operating temperature range at Io=50%	-25ºC ... 80ºC (-40°C … 80ºC, see note-1)
Maximum Relative humidity	95% with no condensation
MTBF	500.000h @ 40°C according to IEC61709
EMC	
Emission	EN61000-6-3
Immunity	EN61000-6-2
SAFETY	
Safety	EN60950-1, EN62368-1
Dielectric strength Input / Output	3000Vac, 4200Vdc 1min.
Dielectric strength Input / Earth	1500Vac, 2100Vdc 1min.
Dielectric strength Output / Earth	1500Vac, 2100Vdc 1min.
MECHANICAL	
Approximate weight	430g
Dimensions	100 x 160 x 38.5mm
CONTROL	
Remote inhibit range	5V ... 24V
Remote sense	< 0.3V per pole
PROTECTIONS	
Against overloads and short-circuits	Current limiting
Against reverse input voltage.	Input fuse
Against input under-voltage.	Under-voltage lock-out
Against Input over-currents	Input fuse

Note-1: The unit can start up and work at an ambient temperature of -40°C with the following restrictions:

- Do not handle the connection terminals below -25°C.
- The output ripple can rise up to 150mVpp at -40°C.

ORDERING CODES

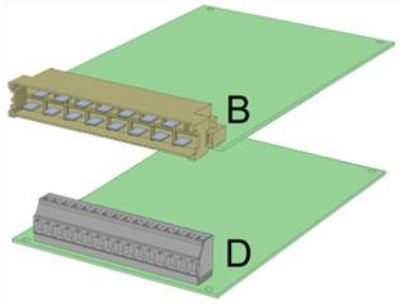
Part Number	Input			Output			
	Nom voltage	Voltage range	Max current	Max Power	Nom Voltage	Max Current	Efficiency
	[V]	[V]	[A]	[W]	[V]	[A]	[%]
CRS-120-6761	12	9 - 15	14.3	100	5	20	78
CRS-120-6762	12	9 - 15	13.4	100	12	8,3	83
CRS-120-6763	12	9 - 15	15.9	120	24	5	84
CRS-120-6764	12	9 - 15	17.7	120	48	2,5	85
CRS-120-6765	24	14,4 - 30	8,90	100	5	20	78
CRS-120-6766	24	14,4 - 30	10,0	120	12	10	83
CRS-120-6767	24	14,4 - 30	9,92	120	24	5	84
CRS-120-6768	24	14,4 - 30	9,80	120	48	2,5	85
CRS-120-6769	48	28,8 - 60	4,40	100	5	20	79
CRS-120-6770	48	28,8 -60	4,96	120	12	10	84
CRS-120-6771	48	28,8 - 60	5,65	140	24	5,83	86
CRS-120-6772	48	28,8 - 60	5,52	140	48	2,92	88
CRS-120-6773	72	43,2 - 90	2,93	100	5	20	79
CRS-120-6774	72	43,2 - 90	3,31	120	12	10	84
CRS-120-6775	72	43,2 - 90	3,77	140	24	5,83	86
CRS-120-6776	72	43,2 - 90	3,68	140	48	2,92	88
CRS-120-6777	110	66 - 144	1,89	100	5	20	80
CRS-120-6778	110	66 - 144	2,14	120	12	10	85
CRS-120-6779	110	66 - 144	2,44	140	24	5,83	87
CRS-120-6780	110	66 - 144	2,38	140	48	2,92	89
CRS-120-6781	220	156 - 275	0,80	100	5	20	80
CRS-120-6782	220	156 - 275	0,91	120	12	10	85
CRS-120-6783	220	156 - 275	1,03	140	24	5,83	87
CRS-120-6784	220	156 - 275	1,01	140	48	2,92	89

Several references are subjected to special MOQs and lead times. Please consult Premium's Sales Dept. and web site.

CRS–120–67_ _–_

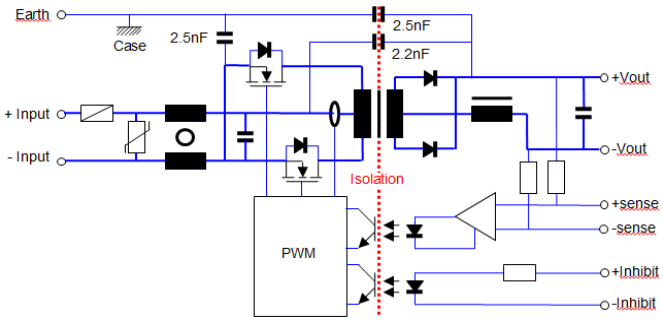
B DIN41612H15
D Spring clamp terminal

Model number



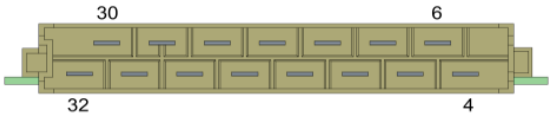
Accessories must be ordered in a separated order line.

BLOCKS DIAGRAM

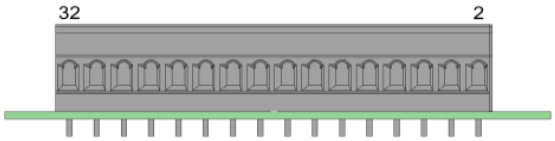


CONNECTIONS

Connector DIN41612H15 (Max. 12A / terminal)

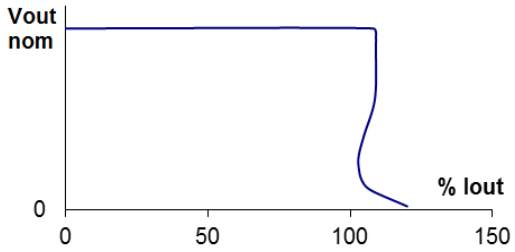


Spring clamp terminals (Max. 12A / terminal)

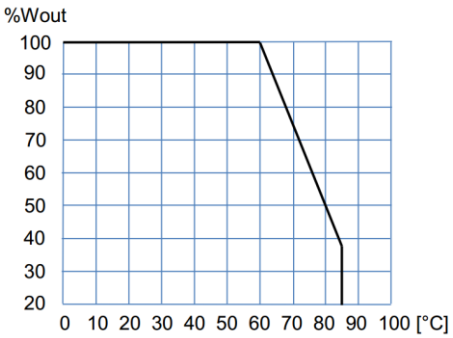


Pinout	
+Input	8,10
-Input	4,6, (2)
Earth	16
+Output	26,28,30
-Output	20,22,24
+Sense	32
-Sense	18
+Inhibit	14
-Inhibit	12

TYPICAL OUTPUT CHARACTERISTIC



POWER DERATINGvsAMBIENT TEMP.



DESCRIPTION

The CRS-120 series consists of DC-DC converters, with a galvanic isolation between input and output. The converters operate at a fixed switching frequency and use push-pull converter topology.

For maximum regulation, the remote sensing terminals can be connected to the load. This will allow a power cable voltage drop of up to 0.3 V on each cable to be offset.

The device is protected against overload and short-circuits by means of a current limiting circuit.

The device is also protected against reverse polarity input voltage, and the input fuse blows if an improper connection is made.

When a converter input undervoltage condition occurs, the converter is disabled, thus preventing the battery from becoming totally discharged. Once the input is within the range the unit restarts automatically.

INSTALLATION

There are two connecting options:

- DIN-41612-H15 connector
- Spring clamp terminals.

The product can be mounted in several ways:

- On a chassis by means of the 4 corner holes.
- In EUROCARD racks. For this application there is a standard 9Te front plate accessory reference **NP-9155**

With the base reference **NP-9124.** This accessory can be mounted on a chassis or in DIN rail adding the clip accessory **NP-9135**.

START-UP

Perform connection as per the table. Use of remote sensing is not absolutely necessary, but if this is required, use of a co-axial or a twisted-pair cable is recommended.

WARNING: If the load is connected to the tabs of remote sensing (+/-S) and the connection from the output to this load is missing the remote sensing function could make unusable due to the acting of the internal fuse of protection.
If power levels close to the maximum output are required, make sure the assembly enhances cooling by natural convection and the card is placed in vertical position.

If several converters need to be connected in parallel, do the following:

Set the output voltage for all converters featuring a mutual difference as small as possible. Join the load outputs by using cables with a cross-section no greater than the one required and of equal length.

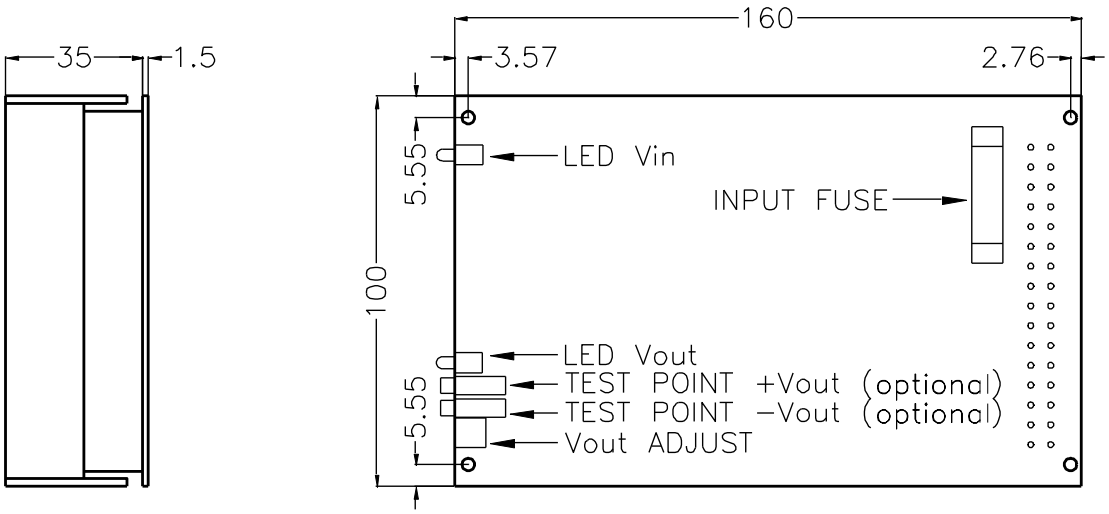
Do not use remote sensing.

For safety reasons, the following requirements must be complied with:

Provide the equipment with some kind of protective enclosure that complies with the electrical safety directives in effect within the country where the equipment is installed.

Only replace the fuse with another fuse of the same rating and type, and only after disconnecting the converter from DC power.

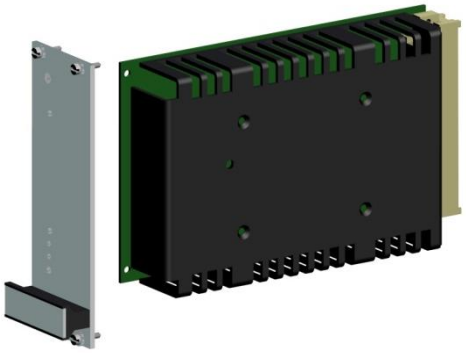
DIMENSIONS



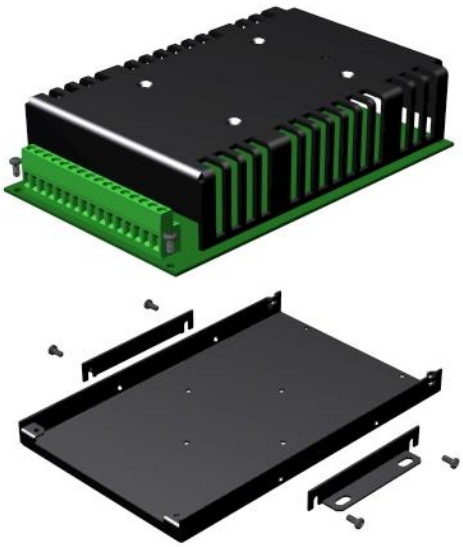
ACCESSORIES

ACCESSORIES	CODE
Rack 19" frontal panel (3U 9TE)	NP-9155
Mounting base	NP-9124
Din rail clip for mounting base	NP-9135
Redundant connection for two units (ORing diodes + alarms contacts)	ACD-15, ACD-25

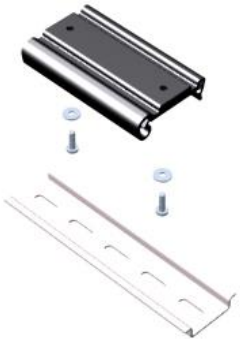
NP-9155



NP-9124



NP-9135



EU, UKCA DECLARATION OF CONFORMITY

The undersigned, representing the following:

Manufacturer: PREMIUM, S. A.,
Address: C/ Dolors Aleu 19-21, 08908 L'Hospitalet de Llobregat, SPAIN

herewith declares that the product:

Type: DC/DC converter
Models: **CRS-120-6761… 6784**

is in conformity with the provisions of the following EU directive(s):

2014/35/EU SI 2016 No 1101	Low voltage / The electrical equipment (safety) regulations
2014/30/EU SI 2016 No 1091	EMC / Electromagnetic compatibility regulations
2011/65/EU Annex II and its amendment 2015/863/EU SI 2012 No. 3032	RoHS / Restriction of the use of certain hazardous substances in electrical and electronic equipment

and that standards and/or technical specifications referenced below have been applied:

EN 60950-1: 2005	Safety. Information technology equipment
EN 62368-1: 2014	Safety. Audio/video information and communication technology equipment
EN 61000-6-3: 2007	Generic emission standard
EN 61000-6-2: 2005	Generic immunity standard

CE marking year: **2006**; UKCA marking year: **2021**

Notes:

For the fulfillment of this declaration the product must be used only for the aim that has been conceived, considering the limitations established in the instructions manual or datasheet.

L'Hospitalet de Llobregat, 31-05-2021

Albert Sole
Technical Director

PREMIUM S.A. is an ISO9001and ISO14001 certified company by **Bureau Veritas**

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