



Leading Conversion Technology for Power Resilience

IRIS 25 - 48/380

DC/DC CONVERTER

User Manual

THE NEW GENERATION OF POWER CONVERTERS

- DUAL DC/ DC OUTPUT CONVERTER 48 VDC - 380 VDC
- BIDIRECTIONAL DC /DC POWER FLOW
- ONE STOP SHOP
Wide output power range



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Version 3.1



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Release Note:

Version	Release date (DD/MM/YYYY)	Modified page number	Modifications
1.0	29/07/2020	-	First release of the manual
2.0	30/10/2020	-	Initial parameter list and configuration
3.0	25/01/2021	-	Updated specifications and added product labels
3.1	18/05/2022	12 and 17	Updated DC data

1. CE+T Power at a glance

CE+T Power is your trusted partner in **advanced power solutions** engineered to meet the demands of modern and dynamic industrial applications. With over 60 years of experience in power conversion technology, CE+T Power nurtures the industry with **innovative solutions designed for critical power backup and energy management**.

Our complete range of power solutions includes **modular inverters** (DC to AC), **UPS** (securing AC loads with batteries), and **multi-directional converters** (inverter, rectifier, and UPS all-in-one). Coupled with our state-of-the-art **monitoring solution**, you have a real energy blender to connect multiple sources of energy seamlessly!

Whether you require **robust backup power solutions**, **energy management solutions**, or a **combination of both**, CE+T Power delivers tailored solutions to meet your specific needs. Our products are **designed with integration in mind**, ensuring **seamless compatibility with other components of your system**. CE+T Power is committed to providing you with the expertise and resources needed to maximize the performance of your power systems.

Thank you for choosing CE+T Power as your partner in advanced power management. Let's power the future together.

2. Abbreviations

AC	Alternating current
CB	Circuit Breaker
DC	Direct current
DHCP	Dynamic Host Configuration Protocol
DSP	Digital Signal Processor
ECI	Enhanced Conversion Innovation
EPC	Enhanced Power Conversion
ESD	Electro Static Discharge
ETH	Ethernet
G	Ground / Grounding
HTTP	HyperText Transfer Protocol
HTTPS	Secure HyperText Transfer Protocol
LAN	Local Access Network
MBB	Measure Box Battery
MBP	Manual By-pass
MCB	Miniature Circuit Breaker
MCCB	Molded Case Circuit Breaker
MET	Main Earth Terminal
MIB	Management Information Base
N	Neutral
NTP	Network Time Protocol
NUA	Non-Urgent Alarm
PCB	Printed Circuit Board
PE	Protective Earth (also called Main Protective Conductor)
PWR	Power
REG	Regular
SNMP	Simple Network Management Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TRS	True Redundant Structure
UA	Urgent Alarm
USB	Universal Serial Bus

3. Warranty and Safety Conditions*

WARNING:

The electronics in the power supply system are designed for an indoor, clean environment.

When installed in a dusty and/or corrosive environment, indoor, it is important to:

- Install an appropriate filter on the enclosure door, or on the room's air conditioning system.
- Keep the enclosure door closed during operation.
- Replace the filters on a regular basis.

Important Safety Instructions, Save These Instructions.

3.1 Disclaimer

- The manufacturer declines all responsibilities if equipment is not installed, used or operated according to the instructions herein by skilled technicians according to local regulations.
- Warranty does not apply if the product is not installed, used or handled according to the instructions in the manual.

3.2 Technical care

- This electric equipment can only be repaired or maintained by a “qualified employee” with adequate training. Even personnel who are in charge of simple repairs or maintenance are required to have knowledge or experience related to electrical maintenance.
- Please follow the procedures contained in this Manual, and note all the “DANGER”, “WARNING” AND “NOTICE” marks contained in this Manual. Warning labels must not be removed.
- Qualified employees are trained to recognize and avoid any dangers that might be present when working on or near exposed electrical parts.
- Qualified employees know how to lock out and tag out machines so the machines will not accidentally be turned on and injure employees working on them.
- Qualified employees also know safety related work practices, including those by OSHA and NFPA, as well as knowing what personal protective equipment should be worn.
- All operators are to be trained to perform the emergency shut-down procedure.
- Never wear metallic objects such as rings, watches, or bracelets during installation, service and maintenance of the product.
- Maximum operating ambient temperature is 50°C (122°F).
- Insulated tools must be used at all times when working with live systems.
- When handling the system/units pay attention to sharp edges.
- This product is suitable for use in a computer room.

* These instructions are valid for most CE+T Products/Systems. Some points might however not be valid for the product described in this manual.

3.3 Installation

- This product is intended to be installed only in restricted access areas as defined by local regulations and in accordance with the National Electric Code, ANSI/NFPA 70, or equivalent agencies.
- The Converter System may contain output over current protection in the form of circuit breakers. In addition to these circuit breakers, the user must observe the recommended upstream and downstream circuit breaker requirements as defined in this manual.
- Please use extreme caution when accessing circuits that may be at hazardous voltages or energy levels.
- The modular converter rack is a dual input power supply. The complete system shall be wired in a way that both input and output leads can be de-energized when necessary.
- DC circuits shall be terminated with no voltage / power applied (de-energized).
- The safety standard IEC/EN 62368 requires that, in the event of an output short circuit, the converter must disconnect in 5 seconds maximum. The parameter can be adjusted on Inview; however, if the parameter is set at a value > 5 seconds, an external protection must be provided so that the short circuit protection operates within 5 seconds. Default setting is 60 seconds.
- The system is designed for installation within an IP20 environment. When installed in a dusty or humid environment, appropriate measures (air filtering) must be taken.
- Environment Conditions:
 - Storage Conditions: -40 to 70°C
 - Relative Humidity: 95%, non-condensing
 - Altitude above sea without de-rating: Less than 1500 m
Greater than 1500 m – de-rating at 0.8% per 100 m
- All illustrations in the manual are for general reference, refer to the technical drawing which is received along with the system for exact information.

3.3.1 Handling

- The cabinet shall not be lifted using lifting eyes.
- Remove weight from the cabinet by unplugging the converters. Mark converters clearly with shelf and position for correct rebuild. This is especially important in dual or three phase configurations.
- Empty converter positions must not be left open. Replace with module or dummy cover.

3.3.2 Other

- Insulation test (Hi-Pot) must not be performed without instructions from the manufacturer.

3.4 Maintenance

- The converter system/rack can reach hazardous leakage currents. Earthing must be carried out prior to energizing the system. Earthing shall be made according to local regulations.
- Prior to any work conducted to a system/unit, make sure that DC input voltage are disconnected.
- Prior to accessing the system or modules, make sure all source of supply is disconnected.
CAUTION – Risk of electric shock. Capacitors store hazardous energy. Do not remove cover until 5 minutes after disconnecting all sources of supply.
- Some components and terminals carry high voltage during operation. Contact may result in fatal injury.

3.5 Replacement and Dismantling

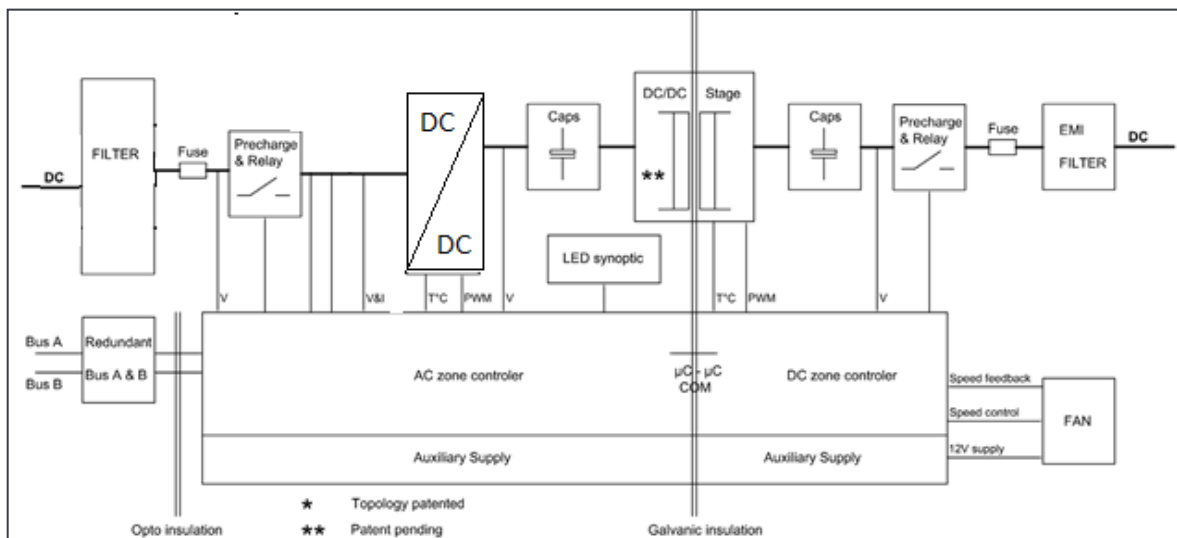
- ESD Strap must be worn when handling PCB's and open units.
- The converter system/rack is not supplied with internal disconnect devices on input nor output.
- CE+T cannot be held responsible for disposal of the converter system and therefore the customer must segregate and dispose of the materials which are potentially harmful to the environment, in accordance with the local regulations in force in the country of installation.
- If the equipment is dismantled, to dispose of its component products, you must comply with the local regulations in force in the country of destination and in any case avoid causing any kind of pollution.

To download the latest documentation and software, please visit our website at www.cet-power.com

4. ECI TECHNOLOGY¹

Iris DC/DC module built with ECI technology and it is a dual port converter. This module deliver regulated DC output and ripple free DC output from battery or DC source.

The below block diagram gives an explicit description of the topology and its operation.



ECI technology has galvanic isolated 48 V to 400 DC and DC to regulated 380 Vdc converters to provide constant and disturbance-free output power regardless of the input source.

The power flows either from DC1 or DC2 source under the control of the DSP controller. Thanks to internal energy buffering for transferring the load between two input sources by 0 ms.

Iris DC/DC module works on True Redundant Structure (TRS) that features decentralized, independent logic, and redundant communication bus.

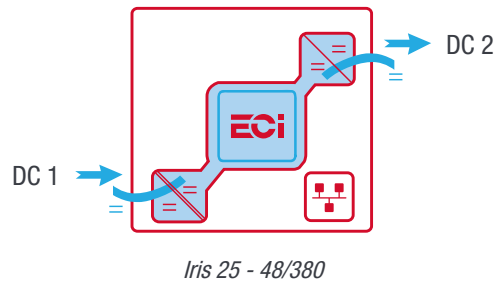
Each Iris DC/DC module has three levels of protection, and it will help to isolate from other modules in case of any fault in the corresponding module. Due to this functionality in each module, it provides no single point of failure in modular systems.

The Iris DC/DC modular systems provide quality output power with higher efficiency.

¹ Information and data given in this chapter is intended to serve as an overview of the ECI Technology. Detailed features and parameters for each individual module type in the range may differ and should be referred to in the dedicated data sheet.

4.1 48 Vdc to 380 Vdc

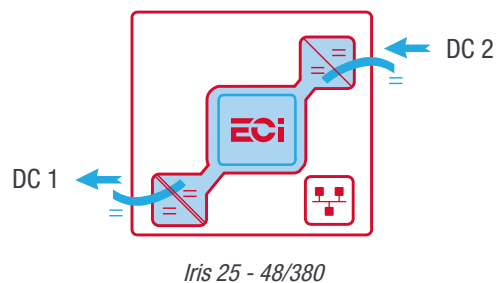
In this mode, the 48 Vdc source is the primary source. When 48V is present, the Iris DC/DC module takes energy from the 48 Vdc source and feed to 380 Vdc.



The 48V to 380V mode provides a higher efficiency of $\geq 94\%$

4.2 380 Vdc to 48 Vdc

From 380 Vdc source, the IRIS DC/DC converter provided a regulated DC voltage to 48 Vdc to maintains battery in charge.



5. Building Blocks

5.1 Iris 25 - 48/380

Telecom / Datacom:	DC1	48 Vdc
	DC2	380 Vdc
	Power	2400 W



- Each converter can supply 2400 W on any DC port.
- Hot swappable and hot pluggable.
- The front LED's indicate the converter status and output power.
- Module is equipped with soft start.
- Fan is equipped with alarm and run time meter. The fan is field replaceable.
- 435 mm (D) x 102 mm (W) x 88 mm (H).
- 5 Kg.

5.1.1 Specifications

Model	Iris 25 - 48/380
Part Number: Module	T821730001 / T821730071
Part Number: Shelf	T824730070
Cooling / Audible noise	Fan forced cooling / <65db @1meter
MTBF	240 000 hrs (MIL-217IF) at 30°C ambient and 80% load
Dielectric strength DC/DC	4300 Vdc
RoHS / WEEE:	Compliant to RoHS Directive 2011/65/EU / WEEE Directive 2012/19/EU
Operating T° / Relative Humidity (RH) non-condensing	-40°C to 65°C, power de-rating from 50°C to 65°C / RH 5% to 85%-Tested according GR3108 Class 2
Storage T° / Relative Humidity (RH) non-condensing	-40°C to 70°C, / RH 5% to 85% Tested according GR3108 Class 2
Material (casing)	Aluzinc / Nickel-Zinc coated steel
DC1 Data (48 Vdc)	
Nominal voltage (range)	48 Vdc (40 - 60 Vdc)
Maximum power	2.4 kW (derating from 40 to 45 Vdc)
Nominal output current	53.2 A
Maximum input/output current (for 15 seconds) / voltage ripple	66.8 / 63.7 A / <10 mV RMS
Reverse polarity protection	Yes
Peak efficiency 48 to 380 Vdc	>93.5 %

Model	Iris 25 - 48/380
DC2 Data (380 Vdc)	
Nominal voltage (range)	380 Vdc (200 to 400 Vdc)
Maximum power	2.4 kW (derating from 200 to 250 Vdc)
Nominal output current	6.75 A
Maximum input/output current (for 15 seconds) / voltage ripple	8.4 A / 7.9 A / 100mV RMS
Reverse polarity protection	Yes
Peak efficiency 48 to 380 Vdc	> 93.5%
Signalling & Supervision	
Display	Synoptic LED
Remote on / off	On rear terminal of the shelf through Inview
Certification	
Safety	IEC62368 / UL62368
EMI / EMC	FCC Part 15 class A CISPR 32 Class A IEC61000-4-2/3/4/5/6 ETSI300386
Environment	ETSI300019
NEBS	GR3108 class 2

5.2 Sub-rack

- The Iris shelf shall be integrated in min 600 mm deep cabinets, Inch/ETSI mounting.
- The Iris shelf house max four (4) Iris modules.
- The Iris shelf is designed with common 380 Vdc input (one per shelf)
- The Iris shelf is designed with individual 48 Vdc input (one per module)
- Optional rear cover for IP 20 in open rack.
- Max 9.6 kW per shelf.
- 480 mm (D) x 19" (W) x 2U (H).
- 6 Kg (without modules).

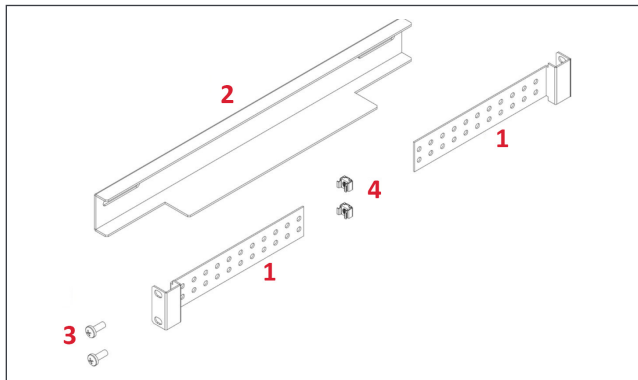


6. Installation of Iris Shelf

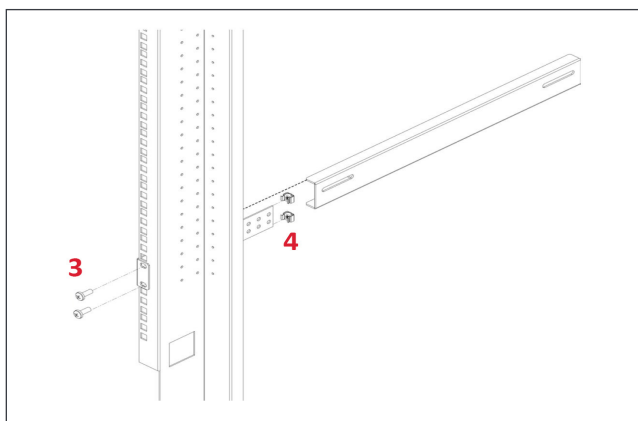
- Read safety instructions prior starting any work.
- Do not attempt to use lifting eyes to erect the cabinet.
- System is preferable handled without modules.
- Pay attention to the module position, make sure that modules are repositioned in the same slot.

6.1 Mounting kit for Iris shelf

The fixing brackets, together with the sliders, allow for different cabinet depths.



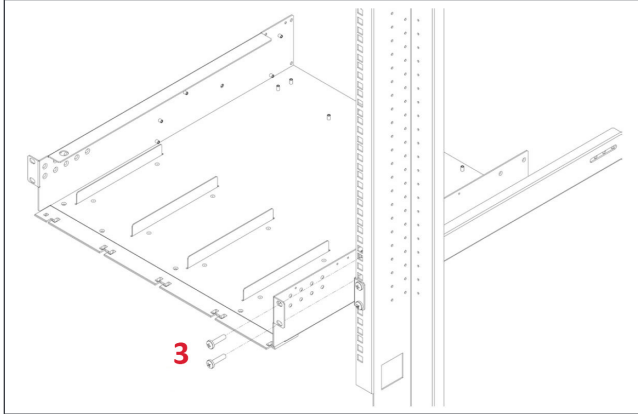
- 1** → Fixing brackets - 4 Nos
- 2** → Slider - 2 Nos
- 3** → Mounting screws - 12 Nos
- 4** → Cage nuts - 12 Nos



Assemble the sliders and adjust the length to suit the mounting depth.

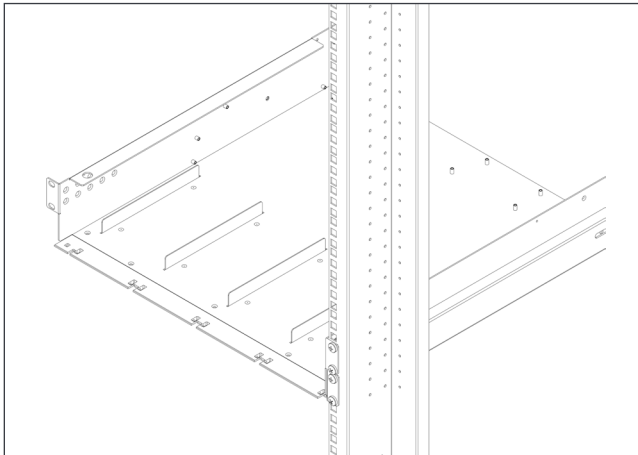
Fix cage nuts (**4**) in the cabinet front and rear frame of the left and the right side.

Fix the left and right slider of the cabinet with the supplied screws (**3**).



Fix cage nuts (4) in the mounting frame.

Slide the shelf in position and fix the shelf with the supplied screws (3).



Finished.

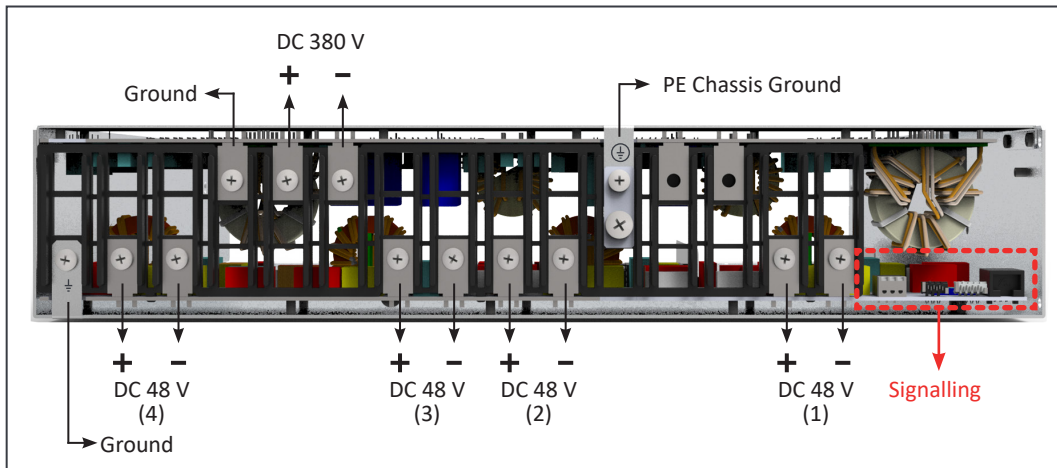
6.2 Electrical installation for Iris shelf

6.2.1 Pre requisites

- The sub-rack have markings for all terminations
- All cables shall be rated at Min 90 deg C
- Electrical terminations shall be tightened with 5 Nm
- All connection screws are M5 x 12 mm
- DC Input-Individual (per module), observe polarity
- DC input -Common (per shelf), respect polarity
- Wire all positions in the sub-rack for future expansion
- Power DC and Signal cables shall be separated
- Cable crossings shall be done in 90 deg angles
- Empty converter positions shall be covered with dummy cover or module

6.2.2 Terminations

The below image is termination details of Iris 25 - 48/380 shelf.



Iris 25 - 48/380 - Shelf Rear Details

6.2.3 Grounding

“PE CHASSIS GROUND” 

PE Chassis ground shall be wired to MET or distributed earth bar connected to MET, according to local regulations. The recommended cable is minimum 10 mm² using **M6** screw with torque 7 Nm.

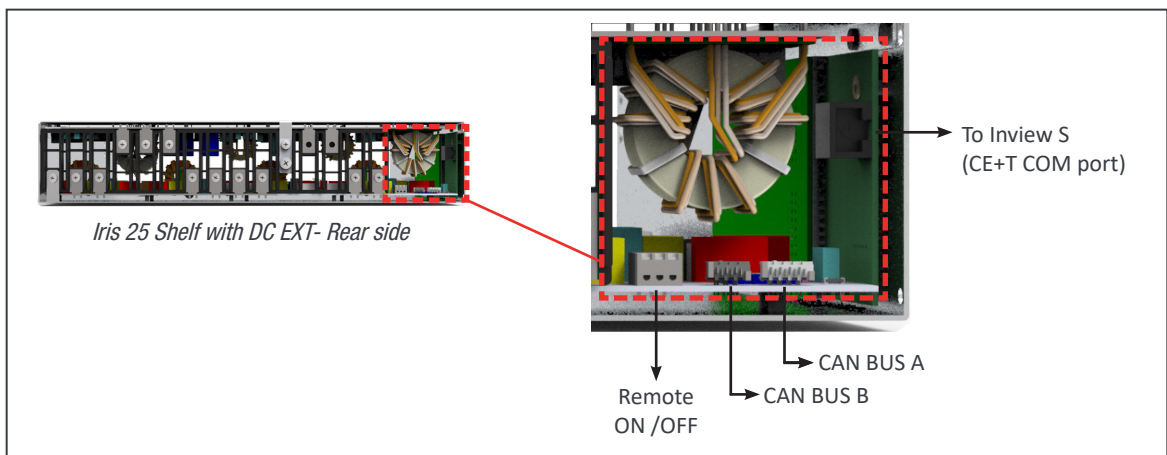
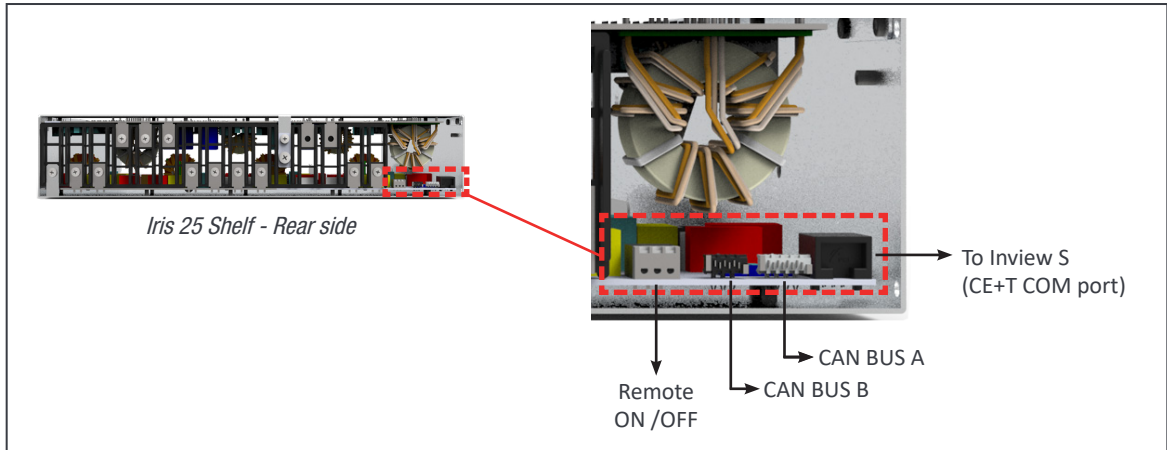
6.2.4 DC1 48 Vdc connection

Model		MCB per converter module	Cable, min	Connector	Torque
Iris 25 - 48/380 Shelf	IEC 62368-1	63 A	2 x 16 mm ²	M5	5 Nm
	UL 62368-1 + NEC NFPA 70	70 A			

6.2.5 DC2 380 Vdc connection

Model		MCB per shelf	Cable, min	Connector	Torque
Iris 25 - 48/380 Shelf	IEC 62368-1	50 A	2 x 16 mm ²	M5	5 Nm
	UL 62368-1 + NEC NFPA 70				

6.2.6 Signalling



6.2.7 Remote ON/OFF

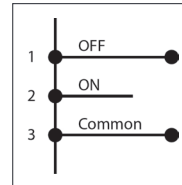
The function of remote ON/OFF is used turn off the module/system output.

By default a jumper is placed between pin 3 and 2. If remote on/off is used, jumper should be removed from the shelf and connect changeover contactor.

- DC inputs are not affected by the remote ON/OFF function.
- The remote ON/OFF can be connected to any shelf.
- The remote ON/OFF requires changeover contactor, one input opens as the other close.
If both transitions are not picked up the status is not changed.

Relay characteristics (Remote ON/OFF)

- Signal voltage +5 Vdc (galvanic insulated)
- Max wire size 1 mm²



Functional table for remote ON/OFF function

#	Pin 1-3	Pin 2-3	Status	Indication
1	Open	Open	Normal operation	All (Green)
2	Closed	Open	OFF	DC Input (Green)
3	Open	Closed	Normal operation	All (Green)
4	Closed	Closed	Normal operation	All (Green)

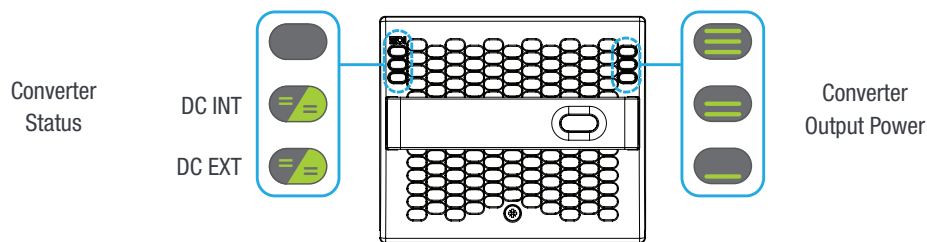
Warning: If remote ON/OFF is not used, pin 2 and 3 MUST be bridged together!

6.2.8 Internal CAN BUS A and B

- In A la Carte systems the internal Bus is pre installed.
- The internal bus comprise of a 6 and 8 pin ribbon cables.
- The internal bus connectors are sensitive and special caution should be taken during installation to keep them out of harms way.
- The internal bus is connected from the first shelf to the last shelf.

7. Operation

7.1 Converter module



Converter Status LED	Description	Remedial action
OFF	No input power or forced stop	Check environment
Permanent green	Operation	
Blinking green	Converter OK but working conditions are not fulfilled to operate properly	
Blinking green/orange alternatively	Recovery mode	
Permanent orange	Starting mode	
Blinking orange	Modules cannot start	Check Inview
Blinking red	Recoverable fault	
Permanent red	Non recoverable fault	Send module back for repair

Output Power (redundancy not counted)						
<5%	5% to 40%	40 to 80%	80 to 95%	100%	100% = overload	Output Power (redundancy not counted)
×	×	×	≡	≡	≡	Status output power LED
×	×	≡	≡	≡	≡	
—	—	—	×	—	—	
1B	1P	2P	2P	3P	3B	Behaviour (B = Blinking, P = Permanent)

8. Inserting/removing/replacing - modules

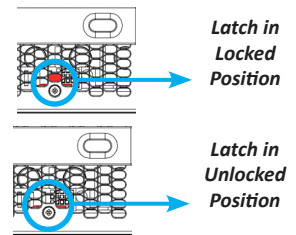
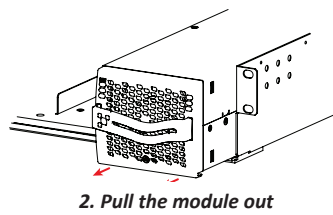
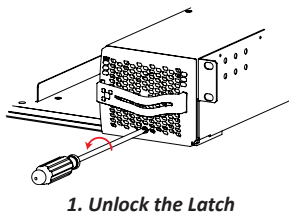
8.1 Iris 25 - 48/380 Converter

- The Iris converter is hot swappable.
- When a new module is inserted in a live system it automatically takes the working set of parameters.
- When a new module is inserted in a live system it is automatically assigned to the next available address.

8.1.1 Removal

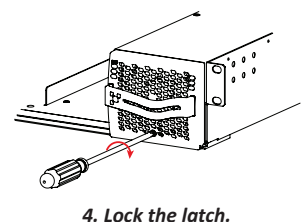
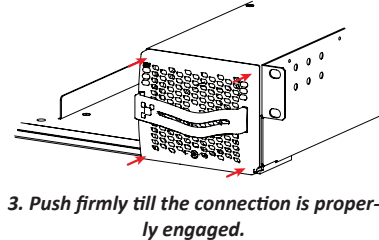
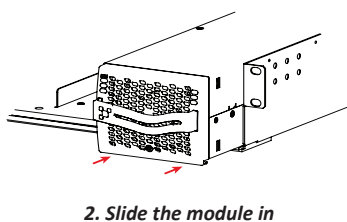
Notice: When one or several converter modules is/are removed access to live parts becomes possible. Replace module(s) with dummy cover without delay.

1. Rotate the screw in anti clockwise by using cross head screw driver to unlock the latch.
2. Hold the front handle and pull the module out.
3. Replace with a new module or a dummy cover.



8.1.2 Inserting

1. Check module compatibility (DC Voltage!).
2. Place the module in the shelf and slide in.
3. Using the module handle, push firmly until the unit is properly connected.
4. Rotate the screw in clockwise by using cross head screw driver to lock the latch.
5. The module will start up and take the first address available on the bus.



8.2 Fan replacement

The FAN life is approximately 60,000 (Sixty Thousand) hours. The converter modules have fan runtime meters and fan failure alarms. Fan failure can result from a failing fan or driver circuit.

1. Let the module rest at least 5 minutes before initiating work. 
2. The converter front cover must be removed. Use a screw driver and remove the screws on both side of the module.
3. Free up the fan. (Note the fan connector and wires position).
4. Disconnect the supply cord, and remove the fan..
5. Replace with new fan and connect supply cord.
6. Place the front cover and tighten the screws on both sides of the module.
7. Check fan for operation.
8. Access Inview and reset the fan run time alarm from within the action menu



9. Finishing

- Make sure that the sub-rack/cabinet is properly fixed to the cabinet/floor
- Make sure that the sub-rack/cabinet is connected to Ground.
- Make sure that all DC input breakers are switched OFF.
- Make sure that all cables are according to recommendations and local regulations.
- Make sure that all cables are strained relieved.
- Make sure that all breakers are according to recommendation and local regulations.
- Make sure that DC polarity is according to marking.
- Re tighten all electrical terminations.
- Make sure that no converter/controller positions are left open.
- Cover empty converter positions with dummy cover.
- Make sure that the Remote ON/OFF is appropriately wired according to local regulations.

10. Commissioning

The DC breaker is a protection device. Modules are plugged in a system and DC breaker is then engaged. Please make sure the corresponding DC breaker is engaged in the ON position.

Installation and commissioning must be done and conducted by trained people fully authorized to act on installation.

It is prohibited to perform any isolation test without instruction from manufacturer.

Equipments are not covered by warranty if procedures are not respected.

10.1 Check list

DATA	
Date	
Performed by	
Site	
System serial number	
Module serial numbers	
Inview Serial number	
ACTION	OK/ N.OK
Unplug all converters except one converter per phase (Just pull off the converter from the shelf, to interrupt electrical contacts)	
Check the DC presence and polarity before closing any DC input breaker.	
Check if converters are working (Green led)	
Check the DC power supply and switch ON the DC breakers	
Plug in all converters one by one	
Check output voltage (on bulk output or on breaker)	
Check if converters are working properly	
Check if system has no alarm (Disable the alarm if any)	
Read configuration file and review all parameters. Some parameters must be adapted according to the site (LVD, load on DC, DC threshold level)	
Check if display working properly (Inview)	
Check if TCP/IP working properly (if this option is present)	
Test on load (if available)	
ALARM	
Switch ON DC input and check that no alarm are present	
Pull out one converter and check alarm according to redundancy	
Pull out two converters and check alarm according to redundancy	
Switch OFF DC input (commercial power failure) and check the alarm according to the configuration	
Check the different digital input according to the configuration (when used)	

11. Trouble Shooting and Defective Situations Fixing

11.1 Trouble Shooting

Converter module does not power up:	Check DC input present and in range (DC breakers) Check that the converter is properly inserted Remove converter to verify that slot is not damaged, check connectors Check that module(s) is (are) in OFF state Check for loose terminations
Converter system does not start:	Check that Inview is present and properly connected Check remote ON/OFF terminal Check the configuration and setting Check threshold level
No output power:	Check output breaker
All OK but I have alarm:	Check the type of event and log file in the controller
No alarm:	Check relay delay time of alarms in the controller Check configuration file

11.2 Defective modules

- A repair request should follow the regular logistics chain:
End-user => Distributor => CE+T Power.
- Before returning a defective product, a RMA number must be requested through the <http://my.cet-power.com> extranet. Repair registering guidelines may be requested by email at repair@cet-power.com.
- The RMA number should be mentioned on all shipping documents related to the repair.
- Be aware that products shipped back to CE+T Power without being registered first will not be treated with high priority!

12. Maintenance

Maintenance should be performed by properly trained people.

12.1 Access Inview controller with laptop

- Download system LOG FILE and save
 - Analyze log file and correct errors
- Download system CONFIGURATION FILE and save
 - Check/correct configuration file according to operation conditions
 - Check/correct alarm configuration
- Check module internal temperature for deviation between modules
 - Temperature deviation may indicate build up of dust. Clean the module by air suction blower or vacuum cleaner.
- Check module/system load
- Check/Correct converter mapping (DC group/ Address)

12.2 Manual check

- Check voltages of DC input and DC output using the multi-meter.
- Replace door filter if more dust is accumulated.
- Take a snap shot of the cabinet and site condition

12.3 Optional

- With an infrared camera check termination hot spots
 - Tighten terminations

13. Service

For Service

- Check Service Level Agreement (SLA) of your vendor. Most of the time they provide assistance on call with integrated service. If such SLA is in place, you must call their assistance first.
- If your vendor doesn't provide such assistance (*) you may contact CE+T through email: customer.support@cet-power.com

(*) CE+T will redirect your call to your vendor if he has such SLA in place.

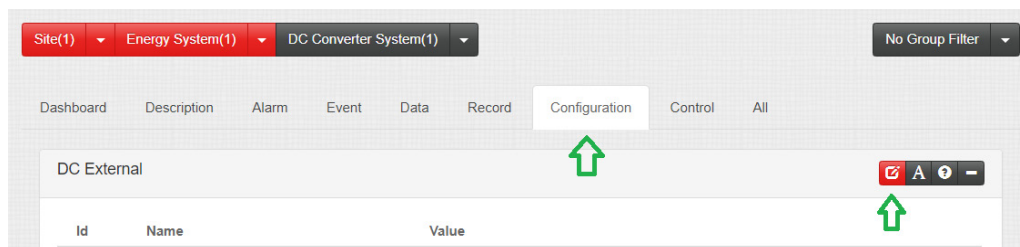
14. IRIS converter configuration

14.1 IRIS DC/DC System and Modules configuration parameter

The system needs proper configuration depending on site topology. The table below gives the different system parameter, default, min and max value

Connect to Inview and to the web UI

1. Select “Converter system” to configure SIERRA 25 system. Go to configuration tab and enter in edit mode



2. Scroll down and configure system according parameter list below
3. Save the configuration when completed

14.2 Global System IRIS configuration parameter list

CF#	Parameter	Description	Min	Default	Max	Unit
121	Configured Modules	Nbr of module DC/DC IRIS 25	1	1	32	-
122	Redundant Modules	Nbr of redundant module	1	1	3	-
131	Override Low Start Push Power Timeout	Used control mode or with API need to refresh below 20s		20		s
132	Override High Start Take Power Timeout	Used control mode or with API need to refresh below 20s		20		s
531	Override Low Start Push Power Timeout	Used control mode or with API need to refresh below 20s		20		-
532	Override High Start Take Power Timeout	Used control mode or with API need to refresh below 20s		20		-
1000	V DC in low start - dV (000)	Specifies the minimum required DC Voltage to start the DC/AC converter. If the DC input voltage is below this limit the converter will not start.	39	44	64	V

CF#	Parameter	Description	Min	Default	Max	Unit
1001	V DC in low transfer - dV (001)	If AC input is present, this parameter specifies the lower limit of DC Voltage, if the DC input voltage falls below this limit the load is supplied by AC input source instead of the DC input source. Below this voltage peak-shaving is relaxed and battery discharge test is stopped.	39	39	64	V
1002	V DC in low stop - dV (002)	If AC input is absent, this parameter specifies the lower limit of DC voltage below which the DC/AC converter stops.	39	39	64	V
1003	V DC in high start - dV (003)	Specifies the maximum permitted DC Voltage to start the DC/AC converter. If the DC input voltage exceeds this limit the converter will not start.	39	58	64	V
1005	V DC in high stop - dV (005)	If AC input is absent, this parameter specifies the maximum DC voltage above this value the DC/AC converter stops.	39	61	64	V
1034	Short circuit voltage threshold (034)	If the AC output voltage stays below the threshold Voltage during the duration of the hold time, the module considers itself in short-circuit, stops its output and generates 'overload too long error'. In Iris, this is used on external Bus	20	150	200	V
1035	Short circuit hold time (035)	If the AC output voltage stays below the threshold Voltage during the duration of the hold time, the module considers itself in short-circuit, stops its output and generates 'overload too long error'. In Iris, this is used on external Bus	1	1	600	s
1049	Start without supervision (049)	When this mode is activated, the module is able to start without Inview S.	0	0	1	-
1073	Lvd mode (073)	If this mode is ON and if no AC input source is present, module goes in low power consumption mode , one minute after it is stopped by Vdc LowStop (002).	0	0	1	-
1074	Max V DC increment safe mode - cV (074)	If the supervision is not present, this parameter defines the rise rate of Vdc in cV / min (if the battery charger mode is activated). 0 - this mode is not activated	0	2	100	-

CF#	Parameter	Description	Min	Default	Max	Unit
1083	Scaling Factor	This parameter is used in large system to allow powers higher than 30kW. It multiplies the value of parameters in W (params 67,68 and 69). The value of this parameter is handled by the gateway	1	1	50	-
1085	Low Start Push Power	If “Low Start Push Power” is lower than this value, power is pushed into “Low Start Push Power” with a slope given by parameter 1087	39	39	64	V
1086	High Start Take Power	If “High Start Take Power” is higher than this value, power is taken from “High Start Take Power” with a slope given by parameter 1087	39	64	64	V
1087	Slope	This parameter gives the slope for VdcInt stage	0	0	30000	W/V
1088	Low Start Push Power	If “Low Start Push Power” is lower than this value, power is pushed into “Low Start Push Power” with a slope given by parameter 1090	50	250	400	V
1089	High Start Take Power	If “High Start Take Power” is higher than this value, power is taken from “High Start Take Power” with a slope given by parameter 1090	250	400	400	V
1090	Slope	This parameter gives the slope for VdcExt stage	0	0	30000	W/V
1091	Power Limitation DC External to DC	This parameter gives the min power that flows through the DC/DC. This parameter must be negative so its absolute value gives the max power that flows from VdcExt to VdcInt.	-30000	0	30000	W
1092	DC/DC : PmaxDroopControl	This parameter gives the max power that flows through the DC/DC. This parameter must be positive so it gives the max power that flows from VdcInt to VdcExt.	-30000	0	30000	W
1093	DC/DC : VdcExtLowStart	It specifies the minimum required External DC Voltage to start the DC/DC converter. If the DC External voltage is below this limit the converter will not start.	200	260	400	V
1094	DC/DC : VdcExtLowStop	It specifies the lower limit of External DC voltage below which the DC/DC converter stops.	200	250	400	V

CF#	Parameter	Description	Min	Default	Max	Unit
1095	DC/DC : VdcExtHighStart	It specifies the lower limit of External DC voltage below which the DC/DC converter stops.	200	380	400	V
1096	DC/DC : VdcExtHighStop	It specifies the higher limit of External DC voltage above which the DC/DC converter stops.	200	390	400	V
1097	BackFeedDetectionMode	0 : Industrial mode (15s) 1 : Residential mode (1s)	0	0	1	-
1098	SleepMode	0 : Remote off = Output off 1 : Remote off = Sleep Mode : Input, DC, Output off	0	0	1	-

