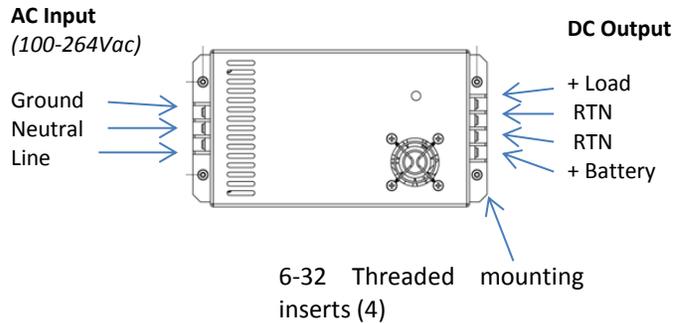


ICT CM SERIES POWER SUPPLY

The CM Series off-line power supplies from ICT provide a reliable 275 Watts of dc power with a built-in battery back-up port and low current float charger for powering 12, 24 or 48Vdc based systems. With an efficient wide range power factor corrected input the units are useable world-wide, and their built in flange mounting points and terminal block connections make installation simple. Temperature controlled fan cooling ensures long life operation over a wide range of ambient temperatures.

CONNECTION DIAGRAM



WARNINGS

Risk of personal injury or damage to equipment and property! Always observe the following:

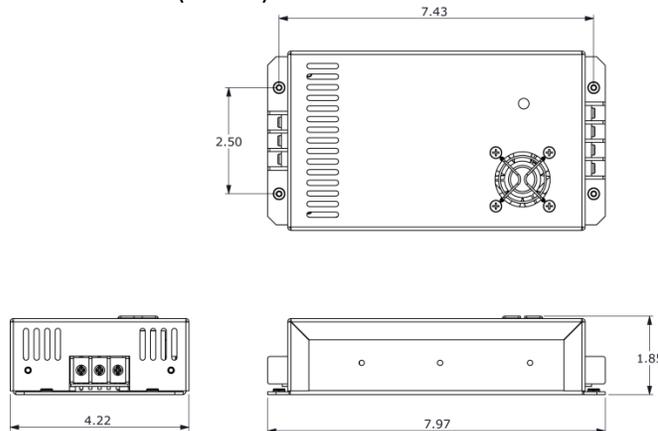
- Install and operate unit in a Restricted Access location, such as an enclosed equipment rack
- Operate the supply from a grounded 3-pin 120Vac or 230Vac outlet (50 or 60Hz) with a branch circuit breaker rated 20A or less
- Use an appropriate dc over-current protection device in line with the optional battery connection
- Use wire and connectors rated for the maximum load current and size of battery fuse or circuit breaker
- Ensure battery polarity is correct before connecting
- Ensure required load current does not exceed max rating of unit
- Do not replace input fuse F1. Failure of this fuse indicates the unit should be sent for factory service

INSTALLATION

Mount the unit on a horizontal flat surface in a restricted access environment such as an equipment rack or cabinet, (ensuring air vents are not blocked) using four 6-32 mounting screws (not supplied). Make the following connections using wire and connectors appropriately rated for the maximum input and output current rating of the unit:

- Connect the supply POS output terminal to the load positive input
- Connect the supply RTN output terminal to the load negative input terminal
- Connect an optional external battery if dc back-up capability is desired
 - Choose a lead-acid battery with a float voltage rating that matches the Panel Mount Series output voltage, and has a 10 Amp-hour (Ahr) capacity rating or greater. Larger capacity batteries will provide a longer back up time in the event of an AC power failure
 - Connect the battery negative to the supply RTN battery terminal
 - Connect the battery positive to an over current protection device (fuse or breaker)
 - With the battery fuse removed or breaker open connect the fuse or breaker to the supply BAT(+) terminal
 - Either the POS or NEG lead may be connected to earth ground if required by the application, as the supply output is isolated from the chassis and ground.
- Connect a de-energized AC power cord to the AC input terminals of the supply, then plug into a grounded 3 terminal 120Vac or 230Vac 50/60Hz outlet.

DIMENSIONS (inches)



OPERATION

Once the unit is mounted and all wiring is connected per the INSTALLATION section instructions, connect a dc voltmeter to the output load terminals and apply AC power to the input. Check that the DC output voltage is within the normal range for the model in use.

The unit will now power the load and trickle charge the optional back up battery at the rated output voltage setting of the unit. The output will continue to be powered directly from the battery if the AC input is off for any reason; ensuring critical loads are powered continuously.

USING the OPTIONAL BACKUP BATTERY

The CM Series uses an isolation diode between the BAT terminal, and the Load + output. When in back-up mode the voltage supplied to the load will be the external battery voltage less the drop across the diode, which is approximately 0.6V. So for example a battery at a voltage of 12.7V will provide approximately 12.1V to the load.

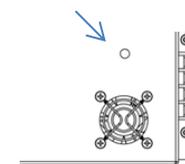
For prolonged AC outages, the battery may be discharged to a very low level, as there is no internal low-voltage-disconnect device. It is good practice to ensure the battery has enough capacity to power the load for long durations and still ensure it is not discharged below approximately 11V. This will help to prevent permanent loss of battery capacity due to over-discharge.

Excessive load current from the battery is limited by an internal ATO type fuse. A short circuit or other over-current event on the load wiring will cause this fuse to open, protecting the internal circuitry. This fuse may be replaced by disconnecting the unit from all power sources, removing the cover, and replacing fuse F3 with an ATO fuse rated 25A (12V model) 15A (24V model) or 15A FKS-ATO (48V model)

The output voltage may be adjusted slightly to better match the float voltage ratings of specific batteries, by setting the trim-pot as shown with an insulated adjusting tool.

Disconnect any loads or battery, and connect an accurate voltmeter to the output terminals. With the unit powered observe the output voltage and slowly adjust the output setting to the desired level using an insulated adjusting tool.

Output Voltage Adjustment Trim Pot



Switch off the AC power and reconnect all output wiring.

PROTECTION FEATURES

Internal circuitry will help protect the load, battery and power supply in case of the following events:

- Internal temperature too high - will reduce output current until stable temperature maintained
- Input ac voltage out of range - will shut off output, automatically restarts when in operating range
- Output Short Circuit – current regulated to less than the max rated level
- Output Over Voltage – will shut off output, automatically restarts after delay
- Battery current too high – dc output fuse will open
- Reverse Battery connection – dc output fuse will open
- Input Over current – internal AC fuse will open

SPECIFICATIONS

Input Voltage:	100 – 264Vac 50/60Hz
Input Power Factor:	0.99 (120Vac input)
V-output Line Regulation:	+/- 0.1%
V-output Load Regulation:	+/- 0.2%
Electronic current limit:	Constant current regulation with fold back for short circuit conditions
Operating Temperature:	-30°C to 60°C ¹
Output Grounding:	Positive, Negative or floating
Efficiency:	88% typical (120Vac)
EMC:	Meets FCC part 15 class B limits
Safety:	Designed to meet EN60950-1

Model:	12V 20A	24V 10A	48V 5A
Output Voltage (Nominal, +/- 0.5%)	13.8V	27.6V	55.2V
Continuous Current Rating (at nominal output voltage)	20A	10A	5A
Output Current Limit (+5%,-0%)	20A	10A	5A
Output V Noise (max)	25 mVrms	25 mVrms	50mVrms
Input Current max at 100Vin	3Aac	3Aac	3Aac
Output Power (max rated)	276W	276W	276W

¹ Reduce output current 1% per °C for ambient above 50°C

LIMITED WARRANTY

ICT Ltd. warrants to the original consumer purchaser that this product shall be in good working order, free from defects in materials and workmanship, for a period of three (3) years from the date of purchase. Should failure occur during the above stated time period, then ICT will, at its option, repair or replace this product at no additional charge except as set forth below. All parts, whether for repair or replacement, will be furnished on an exchange basis. All exchange pieces become the property of ICT. This limited warranty shall not apply if the ICT product has been damaged by unreasonable use, accident, negligence, disaster, service, or modification by anyone other than the ICT factory.

Limited warranty service is obtained by delivering the product during the above stated three (3) years warranty period to an authorized ICT dealer or ICT factory and providing proof of purchase date. If this product is delivered by mail, you will insure the product or assume risk of loss or damage in transit, and prepay shipping charges to the factory.

Every reasonable effort has been made to ensure that ICT product manuals and promotional materials accurately describe ICT product specifications and capabilities at the time of publication. However, because of ongoing improvements and updating of ICT products, ICT cannot guarantee the accuracy of printed materials after the date of publication and disclaims liability for changes, errors or omissions.

If this ICT product is not in good working order, as outlined in the above warranty, your sole remedy shall be repair or replacement as provided above. In no event will ICT be liable for any damages resulting from the use of or the inability to use the ICT product, even if an ICT employee or an authorized ICT dealer has been advised of the possibility of such damages, or for any claim by any other party.

ICT reserves the right to make changes without further notice to any products or documentation for improvement of reliability, function, or design.

ICT Ltd. does not recommend use of its products in life support applications wherein a failure or malfunction of the product may directly or indirectly threaten life or cause injury. The user of ICT products, which are to be used in life support applications as described above, assumes all risks of such use and indemnifies ICT against all damages.

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**CM Series DC Power
Supply**

INSTRUCTION MANUAL

855-159-000 Rev 3.1

**Models:
ICT24012-20CM
ICT24024-10CM
ICT24048-5CM**