Cardinal iMDU range

Cardinal iMDU
Range of intelligent
Mains Distribution Units

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The Cardinal iMDU range

Cardinal with dual input

Cardinal with single input

This intelligent range of iMDUs features an intuitive web based user interface, SNMP MIB based control and monitoring, e-mail messaging and alerts.
The units have an error log to record events, power and current monitoring and an optional temperature and humidity sensor to monitor local conditions in the equipment rack.

Single and dual input versions
Single input and dual input versions are available. The dual input version enables main and back up power sources to be connected to a single Cardinal unit. Switching to the back up input supply is automatic on power fail of the main source. The changeover system is designed to allow non phase coherent inputs to be switched.

Automatic power shedding
If a back up power supply is selected, it may be necessary to switch off non-critical equipment by shedding a number of MDU outputs. Power shedding is configured for automatic operation in the MDU configuration page.

High inrush current protection
Both single and dual input versions are designed for use with equipment that has modern switch mode PSU's that can exhibit high inrush currents. Individually switched outputs are rated to 60A inrush and the dual input changeover version has an inrush limiting circuit that restricts the current at switch on to 40A.

Sequential power on/off
All outlets are individually switched enabling the user to control and set sequential switching, to prevent an excessive current surge on start-up and an orderly power-down when shedding outputs.

Fail-safe
As standard the MDU outputs will switch off in the event of failure of the internal control system. Ordering the fail-safe option enables the outputs to remain on if the internal control system fails and the unit will revert to a conventional MDU.

Power management
The Cardinal range of MDUs include remote power monitoring for optimising operational efficiency and early detection of faults within a rack.

- Power
- Energy (KWh)
- Power factor
- Input voltage
- Input current

Network interface
The dB Cardinal intelligent mains distribution unit provides fully featured web and SNMP interfaces giving easy access to sophisticated remote control and configuration facilities.

On loss of mains input large capacitors sustain the microcontroller for approximately ten seconds. This is long enough to record the fault and send SNMP traps to alert the management system.

Email alerts
The Cardinal range can be configured to provide email alerts for various conditions including; loss of input mains power, blown fuses and output status changing (i.e. relay on or off).

Logging
As well as error logging the MDU records five days of the peak and minimum values of certain parameters.

IP reset
An optional controller reset button can be added which enables the iMDU internal control system to be reset without interrupting any of the MDU outputs

Temperature and humidity sensing
An optional remote temperature and humidity sensor can be added for monitoring the temperature and humidity at any position within the equipment bay.

General purpose inputs
Each MDU includes 16 general purpose inputs for connection of alarms from other equipment. These alarms can be reported in the same way as those for the MDU.

Cardinal web interface

System status
This page allows the status of the MDU to be determined at a glance. It also allows control of the relays, providing they haven't been locked.

IP configuration
The IP configuration page is used to configure the network interfaces including the IP address, NTP, 2 trap destinations and the email address for alarms.

MDU configuration
The input and output parameters such as names and start-up sequences are configured on this page. In addition, this page is used to determine whether alarms are sent as emails or SNMP traps.
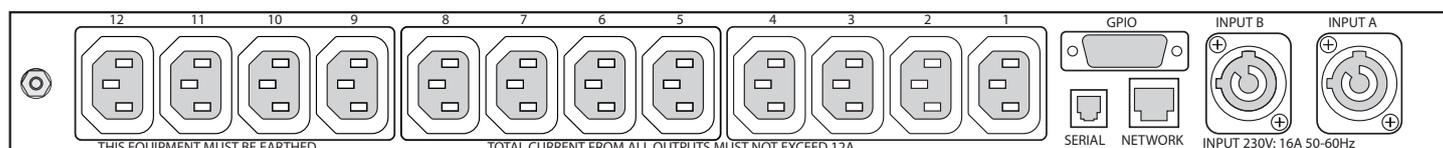

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Intelligent iMDU

The Cardinal range of intelligent mains distribution units provide 12 separately controlled outputs, input power and current monitoring, SNMP, web based user interface and e-mail messaging, all in 1RU.

With a choice of single input or dual input changeover versions, sequential start or fail-safe mode with inrush current protection and optional temperature & humidity sensor, the Cardinal iMDU provides a comprehensive solution for remote control and management of power distribution in an equipment rack.

Technical specifications:

Inputs

Connector:	1 or 2 Neutrik Powercon inlets (depending on model type)
Input voltage:	230V +/- 10%
LEDs:	Single I/P; Supply LED (green) Dual I/P; Supply Active / Available LEDs per I/P (green)

Outputs

Connector:	12 x IEC sockets on the rear panel
Individual fuse rating:	6A per output
Total load:	Up to 12A at 230V
LEDs:	2 per output for "on/off" and "fuse blown"

Inrush Current Protection

Output:	Up to 60A max per output
Input:	Up to 200A at switch on

Temp & Humidity Sensor

Temp range:	-20 to +80 degrees
Temp accuracy:	+/- 2 degrees
Humidity range:	5 to 95%
Humidity accuracy:	5%

Physical

Height:	1RU bay mounted unit
Width:	483mm (standard 19 inch rack)
Depth:	380mm (including tie bar)
Switch:	Front panel switch is also a thermal over-current circuit breaker
Tiebar:	At the rear for cable retention
Weight:	2.9kg (single input version)

Environmental

Operational temp:	5 to 40 deg C, non condensing
Operational humidity:	Up to 85% relative humidity

Control/monitoring

Network:	Ethernet RJ45, 10/100baseT for SNMP interface and web configuration and monitoring via browser
Serial:	RS232 via 6 way Modular Jack
GPIO:	27 way high density 'D' type. 16 inputs and 2 dry contact outputs
LEDs:	Network Activity and Link (green)

Ordering information:

Cardinal MDUs:

iMDU12B-S
Cardinal intelligent MDU with single input and 12 outputs, SNMP and sequential turning on/off of outputs

iMDU12B-D
Cardinal intelligent MDU with dual inputs and 12 outputs, SNMP and sequential turning on/off of outputs

Options — factory fit:

-F Fail-safe option. Outputs remain on if controller fails or is reset. Includes inrush current limiter.

-H Humidity and temperature sensor, integral

-R Controller reset (recessed button on front panel)

Options — other:

iMDU12-O-H Humidity and temperature sensor, external, requires iMDU12-O-C-3

iMDU12-O-C-3 Cable for sensor, serial screened, length 3m (custom cable length available up to 5m)

iMDU12-O-G Switch guard

iMDU12-O-W2 Extended warranty from 1 to 2 years

iMDU12-O-W3 Extended warranty from 1 to 3 years

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As a result of continual product development, specifications are subject to change without notice.