



INTELEPOWER CX COMMUNICATIONS SYSTEMS



Intelepower
CenturyYuasa

Intelepower DC UPS - CX Range Designed For Communications

The demands for quality power in communication applications are placing new demands on DC Uninterruptible Power Supplies (UPS).

Power quality and reliability are integral to ensuring the availability of many of the systems which now run critical operations on a day-to-day basis. These continuing changes in technology have seen businesses evaluate the costs associated with downtime due to power outages, making the need for uninterrupted power an essential component of a business' infrastructure.

The Intelepower brand of Industrial DC power systems are designed to provide absolute reliability where quality power and power equipment is mandatory for overall integrity of operations. Guaranteeing power during mains black-out or brown-out conditions, each system is assembled with Yuasa industrial VRLA batteries.

Through close collaboration with international engineers and local customers, Century Yuasa has developed a range of DC UPS systems under the Intelepower brand which is synonymous with reliability, integrity and value for money. The Intelepower CX Communication systems have the flexibility to satisfy the most stringent specifications. Intelepower is suitable for:

- Business, Corporate and Government Communications
- Key Telephone Systems (KTS)
- Private Branch Exchanges (PABX)
- Cellular radio base stations
- General telecommunication systems

Intelepower Industrial DC Systems can be customised for your specific application and power requirements. Using a modular design philosophy, Intelepower systems are flexible enough to cater for expansion of components and ease of replacement.

This is achieved through the use of switch mode rectifier technology with hot-swappable capabilities. This provides readily expandable power or N+1 redundancy options with minimal cost increases, while offering reduced MTTR (Mean Time To Repair). Each system is network ready, with integrated SNMP and SCADA technology allowing operators to access system performance in real time from a remote location, reducing costs associated with servicing.

Specialist engineering personnel can design, install and commission complete systems as well as offer specialised consultative services to manage one-off or a complete network of UPS equipment.

We simplify the selection process for determining the most suitable Intelepower UPS by providing a clear and comprehensive table. By cross referencing the required autonomy time and load current, you can easily identify the system that suits your specifications.

All standard Intelepower CX Communication systems are designed to all relevant Australian Standards, to provide the reliability of power for essential operations. Century Yuasa has the expertise and resources to ensure that work is carried out effectively and efficiently to internationally bench marked quality standards, ISO 9001:2000.

Regardless of the size of your communications network, an Intelepower system can be designed to provide the most reliable uninterruptible power supply.

Key Design Elements That Help You

Duty of care – reduction of risk

Not only does Intelepower look good, but Century Yuasa also ensures full compliance with relevant safety standards and regulations, so that your most precious assets, your staff, are safe. The unique features of the Intelepower battery segregation means that your personnel are protected from unlikely hazardous events.

Power that you can rely on

Only the most reliable components that are available are used, resulting in the best MTBF (Mean Time between Failures) possible. This can be further increased by the addition of a redundant rectifier (recommended).

Low maintenance costs

The high reliability of Intelepower results in low maintenance costs. Although the batteries used are Yuasa and will result in a long life, that life is still finite so Century Yuasa recommends six monthly checks in order to trend the batteries and predict future performance. Because of the technology used, these checks are able to be done in normal hours without disruption to supply. The modular approach to design allows for low cost replacement of electronic components, normally without any disruption to supply.

Low running costs

The high efficiency of the latest switch mode rectifiers, all done with high efficiency power conversion switch mode technology, means that the lowest possible electricity usage is achieved.

Low upgrade costs

What happens when you add equipment that wasn't planned? Usually this requires the purchase of new power equipment. However with the modular design of Intelepower, it is usually possible to upgrade at minimal cost, especially if this is allowed for when selecting.

Easy to purchase and integrate into customer premises

Intelepower is made and stocked in Australia and usually comes complete with delivery, installation and commissioning. All this is done transparently and efficiently by the Century Yuasa expert team. Standard Intelepower equipment is compact and on a single small footprint. All you need to do is supply AC power close by. The Intelepower equipment meets all relevant International specifications for EMC and other types of electrical interference.

No power down time

Intelepower DC UPS are intended to be powered continuously with no off period, unless the AC power feeding the equipment is off longer than the designed autonomy time. Work such as maintenance and upgrades can be completed without any power down, especially if this work is carried out by Century Yuasa's expert Technicians.

Monitoring

Monitoring is standard on Intelepower systems which are network ready with integrated SNMP and web page access. Rectifier alarms are indicated via LEDs with multiple user definable relay alarms.

CX24 Systems

	CX24 Types 1 to 2	CX24 Types 3 to 8
Electrical Input		
VAC Input	90 to 320VAC	176 to 312VAC
Max Input Current (A)	1.9A @ 240VAC (per rectifier)	14.6A @ 240VAC (per rectifier)
Power Outlet Required	Clipsal 56C315 or 10A GPO	Clipsal 56C540
Power Factor	>0.99 (50% to 100% load)	>0.99 (100% load)
Input Frequency	45-70Hz	45-66Hz
Electrical Output		
Rectifier Type	Intelepower CX 400W	Intelepower CX 3.1kW (24VDC)
System Nominal VDC	24VDC	24VDC
Efficiency	>87% (100% load)	>90% (100% load)
Dynamic Load Regulation	<±5% (40% to 90% load step)	<±4% (40% to 90% load step)
Cooling	Natural convection	Force cooled
Electrical Other		
Distribution	3 x 10A AM Series Plug-In Style	4 x 32A, 8 x 16A
Battery Isolation	Isolation per string	Isolation per string
Monitoring and Control	Supervision of input mains, output voltage and current, plus reports condition of the rectifiers, circuit breakers and LVD. Intelepower CXCI is network ready with integrated SNMP and web page access.	LCD touchscreen user interface, for supervision of input mains, output voltage and current, plus reports conditions of the rectifiers, circuit breakers and LVD. Intelepower CXCM4 is network ready with integrated SNMP and SCADA access.
Alarms	Rectifier alarms are indicated via LED's with three (3) user definable relay alarm outputs via CXCI.	Rectifier alarms are indicated via LED's with seven (7) user definable relay alarm outputs via CXCM4.
Mechanical		
Cabinet Configuration	23RU Relay Rack	27RU Cabinet
Cabinet Colour	Black (powder coated)	Black (powder coated)
Dimensions (mm)	1000H x 600W x 540D	1400H x 600W x 600D
Environmental		
System Rated Temperature	25°C	25°C
Operating Temperature Range *	0°C to 45°C	0°C to 45°C
Operating Humidity Range	0 to 95% RH non-condensing	0 to 90% RH non-condensing
Elevation	0 to 2000m	0 to 2000m
Design Considerations	AS 3011 Part 2, AS 2676 Part 2	AS 3011 Part 2, AS 2676 Part 2

* Battery performance is rated to 25°C

Further information can be obtained by contacting Century Yuasa Batteries.



CX24 23RU Relay Rack



Tailor Your System with Additional Choices

Cabinet Designs – indoor and outdoor

Other cabinet designs are available to order, or in some cases power equipment can be installed in the customer's racks. However it is important to remember two things. Firstly, that we all have Duty of Care and need to maintain compliance with the standards and regulations. Secondly, that the battery size is dependant on the time that you wish the equipment to continue to work during a power failure.

Input voltage

Most Intellepower DC UPS can be supplied from either single phase or 3-phase depending on the total load to be supplied.

Surge and lightning protection

All Intellepower CX Rectifier Modules include surge and lightning protection as standard. For high lightning prone areas, Century Yuasa can advise on additional protection requirements, which can be added to the Intellepower DC UPS in many cases.

Customer defined alarms

The flexible alarm outputs can be configured to your special requirements. Please ask for your Intellepower DC UPS to be pre-programmed to suit.

Customer installation

This can be done if your installation staff have the correct training and expertise; however it is best left to Century Yuasa Technicians. If for some reason this is impracticable, then we would recommend training and commissioning be carried out by Century Yuasa.

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CX48 Systems

	CX48 Types 1 to 5	CX48 Types 6 to 12	CX48 Types 13 to 20
Electrical Input			
VAC Input	240VAC 1 Phase 50Hz	240VAC 1 Phase+N+E 50Hz	240VAC 3 Phase+N+E 50Hz
Max Input Current (A)	3A @ 240VAC (per rectifier)	8.5A @ 240VAC (per rectifier), max. 2 modules per phase	16.8A @ 240VAC (per rectifier), max. 2 modules per phase
Power Outlet Required	Clipsal 56C315	Clipsal 56C520	CBs in local distribution board or 56C540
Power Factor	>0.99 at nominal conditions and 50% to 100% load	>0.99 at nominal conditions and 50% to 100% load	>0.99 at nominal conditions and 50% to 100% load

Electrical Output			
Rectifier Type	Intelepower CX 48- 650W	Intelepower CX 48-1.8kW	Intelepower CX 48-3.6kW
System Nominal VDC	48VDC	48VDC	48VDC
Efficiency	>91% at nominal conditions and 50-100% load	>91% at nominal conditions and 50-100% load	>92% at nominal conditions and 50-100% load
Dynamic Load Regulation	Better than $\pm 2\%$ for 10 to 90% load step (output recovers to static limits within 2ms)	Better than $\pm 2\%$ for 10 to 90% load step (output recovers to static limits within 2ms)	Better than $\pm 2\%$ for 10 to 90% load step (output recovers to static limits within 2ms)
Cooling	Natural Convection	Fan cooled (variable speed)	Fan cooled (variable speed)

Electrical Other			
Distribution	3 x Single Pole 20A Bullet Type plug-in MCB	8 x Single Pole 16A MCB 4 x Single Pole 32A MCB	8 x Single Pole 16A MCB 4 x Single Pole 32A MCB
Battery Isolation	Isolation per string	Isolation per string	Isolation per string
Monitoring and Control	Reports status of the rectifiers, circuit breakers and LVD. Intelepower CXCI is network ready with integrated SNMP and web page access.	LCD touch screen user interface, for supervision of input mains, output voltage and current plus reports conditions of the rectifiers, circuit breakers and LVD. Intelepower CXCM2 is network ready with integrated SNMP and web page access.	LCD touch screen user interface, for supervision of input mains, output voltage and current plus reports conditions of the rectifiers, circuit breakers and LVD. Intelepower CXCM4 is network ready with integrated SNMP and web page access.
Alarms	Local indication of alarms via LED's on CXCI. Three (3) programmable clean contact alarms outputs.	Rectifier alarms are indicated via LEDs with five (5) user definable relay alarm outputs via CXCM2	Rectifier alarms are indicated via LEDs with seven (7) user definable relay alarm outputs via CXCM4

Mechanical			
Cabinet Configuration	22RU Relay Rack	27RU Cabinet	45RU Cabinet
Cabinet Colour	Black (powder coated)	Black (powder coated)	Black (powder coated)
Dimensions (mm)	1000H x 600W x 540D	1400H x 600W x 600D	2150H x 600W x 600D

Environmental			
System Rated Temperature	25°C	25°C	25°C
Operating Temperature Range*	0°C to 45°C	0°C to 45°C	0°C to 45°C
Operating Humidity Range	0 to 95% RH non-condensing	0 to 95% RH non-condensing	0 to 95% RH non-condensing
Elevation	0 to 2000m	0 to 2000m	0 to 2000m
Design Considerations	AS 3011 Part 2, AS 2676 Part 2	AS 3011 Part 2, AS 2676 Part 2	AS 3011 Part 2, AS 2676 Part 2

* Battery performance is rated to 25°C

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CX48 22RU Relay Rack



CX48 27RU Cabinet



CX48 45RU Cabinet

Disclaimer

This paper contains information obtained through personal knowledge, professional knowledge, experience and due diligence of research in relation to the nominated topic. It is expected that the information so contained shall be used as an indication of the issues to be considered in relation to the given topic, and that the person(s) seeking to undertake works in relation to this or associated matters are advised to seek professional advice from their Century Yuasa Batteries Pty Ltd. representative through one of the contacts listed below and in other literature. Neither Century Yuasa Batteries Pty Ltd., nor the author shall be held directly or indirectly liable, in anyway whatsoever for any subsequent usage or interpretation of the information so contained in this article and where used outside the scope of its stated purpose. Further information can be obtained by contacting your nearest Century Yuasa Batteries Pty Ltd representative.

Head Office

37 – 65 Cobalt Street
Carole Park Queensland 4300

ph +61 7 3361 6161
fax +61 7 3361 6366

www.centuryyuasa.com.au
www.intelepwer.com.au

Enquiries within Australia

ph 1300 364 877
fax 1300 364 329

Enquiries within New Zealand

ph 0800 236 8879
fax +64 9 978 6677

An affiliated business of the GS Yuasa Corporation, CenturyYuasa has an 80-year history of supplying a range of stored energy solutions to the Australian market. An established network of sales and distribution offices throughout Australia and New Zealand has seen the business gain the trust and respect from its customers by focusing on quality products and exceptional customer service.

The portfolio within CenturyYuasa includes a wide range of stored energy products and services, as well as identifiable brands and unique technologies for automotive, materials handling and standby power applications. Directly maintaining and operating three manufacturing centres in Australia and employing some 650 people, CenturyYuasa continues to be Australia's enduring manufacturer of stored energy products.

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