



Intergy DC Power Systems



Analog or digital, wireless or fixed line, central office or remote concentrator - whatever your communications network application, there is an Intergy power solution to suit you.

The Intergy range includes the Intergy Mini Power System range, suitable for roadside cabinets or customer premises equipment, through the Intergy Medium Power Systems for cell sites, transmission terminals or small-to-medium switches; and up to the Intergy Large Power Systems for major switching installations.

Flexible

A combination of a range of cabinet sizes, a wide selection of interchangeable system modules and the flexibility of software controlled system parameters. Typical applications include all sizes of switching installations, microwave and fiber optic transmission systems, wireless transmitters and base stations, and customer premises equipment.

Efficient

Intergy power systems are pre-configured for fast installation and commissioning. All system settings are fully adjustable in software

and stored in transferable configuration files for repeatable one-step system set-up. Using the leading switch mode technology of the Intergy range, the rectifier modules minimise operating costs and provide advanced features such as constant power output and one-step, software-controlled installation and set-up.

Reliable

Intergy is an investment in the future of your network. Intergy is the most flexible and easily configurable DC power system range available. And, if your network requirements change Intergy systems can be easily expanded or re-deployed to other parts of your network.

► Intergy Access Power Systems 28V up to 28.8kW

Features

- High reliability fan cooling
- 19 " 3U/6U sub-racks, modular and expandable
- Up to 24 rectifier modules
- High Power Density (150A/3U,19")
- Multiple AC option (1Ø, 3Ø, 2Ø)
- Fast On-Line Replacement of Rectifiers (Hot-Swap)
- AB Feeds option for DC Distribution
- Scalable System Solution

Typical Applications

- Data Networks and IP Routers
- Customer Premises Equipment
- Access Nodes
- Wireless
- 3G
- Broadband



► Intergy Medium Power Systems 24V up to 34.8kW, 48V up to 52.2kW

Features

- Pre-Configured Supervisory Module
- Fast On-Line Replacement of Rectifiers (Hot-Swap)
- High Efficiency and Unity Power Factor
- Downloadable Configuration Files
- Designed to Maximise Battery Performance
- Wide AC Input Voltage Tolerance
- Optional Parallel System Connection Kit
- Compliance with International Standards

Typical Applications

- Data/Customer Premises Equipment
- Wireless/Cellular/CDMA
- Central Office



► Intergy Large Power Systems 48V up to 720kW

Features

- 45U Cabinet
- Pre-Configured Software
- High Power Density
- Fast On-Line Replacement of Rectifiers (Hot-Swap)
- High Efficiency and Unity Power Factor
- Surge Protection
- Parallel Systems Option up to 15,000A
- Compliance with International Standards

Typical Applications

- Wireless
- Transmission Terminals
- Local and Central Office Switching



In the interests of continual product improvement all specifications are subject to change without notice.

POWERMANAGERII™

PowerManagerII software provides remote management for Intergy DC power systems via an intuitive, Windows® -based graphical user interface. Alarms are highlighted and detailed to help you analyze faults and PowerManagerII will simplify monitoring of operating conditions such as load growth. You can network as many power systems as you like and set up map views of urban areas or wider regions, to help you visually navigate to any site.

DC TOOLS™

Intergy DCTools is configuration software for field technicians installing and maintaining Intergy DC power systems.

Frontline staff will find Intergy DCTools is a major benefit during the installation, trouble shooting and support of any Intergy product including all power systems, CellSure battery management systems and SiteSure ancillary monitory and control systems.

Among the advantages of using DCTools are reduced installation times, lower fault response times, less needs to visit sites and better access to operating data for fault analysis

CELLSURE™

Intergy CellSure is a battery monitoring system that keeps track of a battery 's condition and highlights ahead of time if any maintenance is needed. The modular components are easy to install and can be retrofitted to existing battery systems. If Intergy CellSure is used in conjunction with Intergy DC power systems and PowerManagerII remote control software, then test discharges or refresher charges can be carried out without the need for a site visit. Intergy CellSure is available for both 24V and 48V battery systems in up to four strings, with either 2V cells or 4V, 6V or 12V monoblocs

SITESURE™

Intergy SiteSure is a suite of add-on modules that use the intelligence and communications capabilities of an Intergy DC power system to control and monitor fire, security, air conditioning, engine alternators or other building services equipment. Remote access to SiteSure at any site via a graphical interface is also available with either the PowerManagerII remote control software or with Intergy DCTools.

► Customer Services

The Intergy range of DC power products is backed by expert technical support and customer services. This includes installation and maintenance services, repairs and training courses.

Experienced personnel are available 24 hours a day to provide expert advice on all Intergy products, as well as information on repairs and other services.

Design Consulting Services

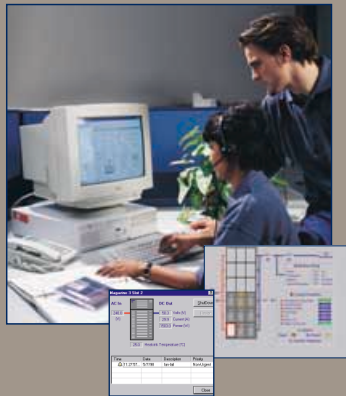
Skilled consultants can provide a full design for DC power equipment to specifically suit individual applications and sites. Using the modular and comprehensive range of Intergy product, a system can be easily designed for any application and advice is given on power equipment, capacity, functionality and battery requirements for installations.

On-Site Services

Installation teams fully trained on Intergy power systems are available anywhere in the world. Installation and commissioning can be either by supervision and assistance to a network operator's own staff or by providing complete work crews.

Regional Repair Sites

If a phone call isn't enough and additional assistance is required, Regional Repair Sites, staffed by fully trained technicians, are located globally.





► Intergy IPS4000 48V Power Systems

AT&T Broadband, Voice and Broadband Data

AT&T BroadBand of Chicago, a division of AT&T Corporation, is a communications company providing more than 80 million customers with broadband Internet, cable, local and long distance telephone services across the United States.

In late 1998 they asked local Powerware distributor, Bob Gaw of Kramer Datapower, about DC power systems products that may be available. Bob immediately recommended the Intergy product range, as a solution to his clients needs.

AT&T BroadBand now has Intergy DC power systems installed in ten locations. The systems vary from 200 amps output up to 4000 amps. Intergy has performed "beautifully" according to Bob. He says that the reputation of Intergy products for performance, reliability and service credibility contributed to making Intergy the product of choice. He also acknowledges the Powerware team in the US as being "one heck of a support team"!



► Intergy IPS5000 24V Power Systems

Guangdong Mobile Communication Co Ltd, GSM Base Stations

Guangdong Mobile Communications Co Ltd (GMCC) is an analog cell phone and GSM mobile phone service provider. It is the biggest of all the mobile services companies operating in the provinces of China.

By the end of the first quarter 2001, China was the world's second largest mobile cellular marketplace, with 100 million subscribers. This figure is expected to reach 300 million by 2005.

Guangdong Mobile Communications uses Intergy in Guangzhou, Zhuhai, Zhaoqing and Qingyuan cities. There is a total of approximately 250 sites in these cities in which the Intergy IPS 5000 systems with R1524 (convection cooled, 24V) rectifiers are installed.

"We chose Intergy because of the quality of product and the ability to align with the Guangdong Telecomm Factory in Tiandong," said Mr Liu Gangting, Wireless Department Manager of Operation & Maintenance Division, GMCC.



► Intergy IMP5520 48V Power Systems

Nortel Networks, Roadside Cabinets for Telstraclear

Nortel Networks is a global Internet and communications leader with capabilities, spanning optical, wireless and local Internet, e-business, and personal internet.

Nortel contracted Powerware to supply, install and commission the network access roadside cabinets for the Christchurch rollout of TelstraClear's fibre optic network. Each cabinet has the capability to service 480 subscribers.

Powerware Australia supplied 240 roadside cabinets that have integrated distribution and battery compartment, and are double skinned offering additional security and a more constant environment.

Powerware New Zealand then fitted the cabinets with Intergy IMP5520 DC mini power systems that have a capability of up to 120A at 48V. The mini power systems use a minimum amount of space in the cabinet while still providing more than enough power for the equipment and to maintain the charge on the standby batteries. The cabinets are also fitted with 8 Hawker standby batteries with an embedded venting system.

"Powerware has a skilled work force and a superior level of integration services. The global service offered by Powerware in supplying cabinets, rectifiers and batteries and then managing installation and commissioning is a huge bonus." said Glen Owen, Sales Manager with Nortel in New Zealand.

Overview E, July 2003

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POWERWARE

Applications and Product Selection Guides for Intergy DC Power Systems

Whatever your telecommunications or data network requirements there is an Intergy dc power solution to suit you. Select your application from the following table to see the Intergy options available.

APPLICATIONS AND PRODUCT SELECTION GUIDE FOR INTERGY DC POWER SYSTEMS

Application		Intergy DC Power Solution			
		IAPS	IMPS	IPS	ILS
		1-600A, 48V	1-100A, 24V 1-120A, 48V	1-1440A, 24V 1-1080A, 48V	1-15,000A, 48V
Customer Premises Equipment	PBX/VoIP	✓	✓		
	Wireless Access	✓	✓		
Wireless	Mini/metro sites	✓	✓		
	Base transceiver stations (BTS)	✓	✓	✓	
	Base station controllers (BSC)	✓		✓	
	Main switches			✓	✓
Wireline	Fiber transmission systems	✓		✓	✓
	Digital microwave radio	✓		✓	
	Broadband voice data services	✓		✓	
	Satellite earth stations			✓	✓
	Local access roadside cabinets	✓			
	Local/Central office			✓	✓
	Point-of-presence (POP) switches			✓	✓
	Regional, international and gateway switches			✓	✓

Intergy Access Power Systems

Features

- ▶ High reliability fan cooling
- ▶ 19" Sub-rack
- ▶ Modular 3U/6U and expandable option
- ▶ Up to 24 rectifier modules
- ▶ Pre-Configured Software
- ▶ High Power Density (150A/3U, 19")
- ▶ Multiple AC option (1Ø, 3Ø, 2Ø)
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ AB Feeds option for DC Distribution
- ▶ Scalable System Solution



48V up to 28.8kW

The Intergy Access Power Systems (IAPS) Fan Cooled Series is the ideal solution for low power telecommunications applications requiring compact, efficient and flexible DC power supplies.

The IAPS is a 19" rack mount system available with 3, 6, 12, 18, or 24 Intergy Access Power System AR1248 Rectifiers, an integral DC Distribution panel and the SM40 Series Intergy Supervisory Module. GSM cellular (including text messaging), standard modem and TCP/IP communications options are available.

Typical applications are providing standby power for customer premises equipment, road-side terminals, data networks and IP routers. The IAPS Fan Cooled Series is pre-configured for fast installation and set-up. All system settings

are fully adjustable in software and stored in transferable, configuration files for repeatable one-step system set-up.

Typical Applications

- ▶ Data Networks and IP Routers
- ▶ Customer Premises Equipment
- ▶ Access Nodes
- ▶ Wireless
- ▶ 3G
- ▶ Broadband

System Type	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (kW)	Maximum Output Current
IAPS 300F	AR1248	Up to 3	3.6	75A @ 48V
IAPS 600F	AR1248	Up to 6	7.2	150A @ 48V
IAPS 1200F	AR1248	Up to 12	14.4	300A @ 48V
IAPS 1800F	AR1248	Up to 18	21.6	450A @ 48V
IAPS 2400F	AR1248	Up to 24	28.8	600A @ 48V

Intergy Access Power Systems

► Brief Technical Specifications

AC Supply	220/240V, 50/60Hz (nominal) 185V-275V: full output up to 50°C [122°F] 150V-185V: full output up to 30°C [86°F]
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	230V AC input: >91% (50 – 100% Output Current)
DC Output Voltage Range	48 V: 40-57.5V
Operating Temperature Range	-40°C – +70°C [+40°F – +158°F] (Output current is derated above 50°C [122°F] and below -10°C [14°F])
Dimensions H, W, D	IAPS 300F: 3U, 19" mounting, 300mm [11.8"]* IAPS 600F: 6U, 19" mounting, 300mm [11.8"]* IAPS 1200F (typical): 15U, 19" mounting, 300mm [11.8"]* IAPS 1800F (typical): 18U, 19" mounting, 300mm [11.8"]* IAPS 2400F (typical): 21U, 19" mounting, 300mm [11.8"]* * Additional clear space is required for exhaust air (all models) and busbars (IAPS1200F and larger systems).
Supervisory Module	SM40
DC Distribution Module	IAPS300F: 10-way Miniature Circuit Breakers (MCB's) Other models: 23-way Miniature Circuit Breakers (MCB's) Custom MCB or fuse options are available on request. Distributions are configurable for battery, load and AC connections.
Communications	RS232 direct or connect to external PSTN or GSM (modem not included). TCP/IP with Intergy Site Gateway Module.

► Options

Low Voltage Disconnect (LVD)	100A internal IAPS300F series 150A internal IAPS600F series 400 and 800A options for IAPS 1200F, 1800F and 2400F series
Rectifier Blank Panels	For unused rectifier positions
DCTools	Configuration software. Free download from: www.powerware.com/intergy/downloads
PowerManagerII	Remote control and monitoring software
Other Options	External Surge Protection

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification, CSA, IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit
Japan	VCCI

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy Network Energy Source

Features

- ▶ Telecom grade standby power
- ▶ Web-enabled real-time remote control and monitoring
- ▶ Smart battery monitoring
- ▶ Battery charge indicators
- ▶ 19" rack mount
- ▶ N+1 battery and rectifier redundancy
- ▶ Up to 4.6kW output
- ▶ Up to 16 battery packs



The Intergy Network Energy Source (NES) gives you the security of a DC standby power system for your data network devices.

The NES is a modular switch mode power supply designed specifically for data network applications. The totally integrated battery and rectifier system is supplied ready to go with plug-in and walk-away modules for easy installation. The web-enabled interface allows the system to be monitored over a LAN and there is an email alert notification system.

The N+1 redundant rectifier design, together with up to 16 battery packs provides total system integrity. The system is environmentally safe and perfectly suited for installation with network communications equipment.

The built-in intelligence of the NES provides full system diagnostics including battery charge

indicators to show the state of health of the battery packs. The patented smart battery monitoring system shows vital battery system data including accurate battery capacity measurement and reserve time remaining. All in real-time.

The NES provides the highest level of standby power security available. It gives your data network the reliability it deserves and your customers expect.

Typical Applications

- ▶ 48V battery backed DC standby power for IT networks
- ▶ Secure power solution for Voice over IP (VoIP), digital PBX and other data network devices
- ▶ 48V DC Power-over-Ethernet (PoE) devices compliant with IEEE 802.3af

Intergy Network Energy Source

► Brief Technical Specifications

AC Supply	R748 Rectifiers: 110V, 50/60Hz nominal R1248 Rectifiers: 220/240V, 50/60Hz nominal
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	>90% (50 – 100% Output Current)
DC Output Voltage	54V: nominal float Suits equipment with operating range of 40 - 60V
Maximum Load Power	R748 rectifier: 2040W (3 + 1 redundancy) R1248 rectifier: 4640W (4 + 1 redundancy)
Operating Temperature Range	0°C to 40°C [+32°F to +104°F] (Operation outside this range will reduce battery life)
Dimensions H, W, D	INES115/125: 6U, 19", 480mm INES215/225: 8U, 19", 480mm INES315/325: 10U, 19", 480mm INES-EBC: 2U, 19", 480mm
Weight	INES115/125: 53kg [117lb]* INES215/225: 92kg [202lb]* INES315/325: 131kg [288lb]* *including battery tray and rectifier modules Additional Battery Tray (INES-BT): 32kg [70lb]
Supervisory Module	NSM35 Series Supervisory Module (Refer to separate NSM35 product data sheet for details)
Communications	Web based interface Email Alert system (6 configurable addresses) Ethernet (RJ45 socket) RS232 Serial (D9 socket) Null Modem cable supplied Voltage free relay alarm outputs (4, screw terminals)
DC Distribution	Outlets: 9 x 10 A Molex Single Row Sabre sockets Fuses: 15 A Fast Blow with individual fuse alarm (Red LED)
Software	DCTools for configuration and monitoring

► Options

Supervisory Module User Interface	LCD display and 4-button keypad (Refer to separate NSM35 product data sheet for details)
Battery Tray (INES-BT)	48V, 16Ah (C10 rate) VRLA battery and slide-in tray
Extension Battery Chassis (INES-EBC)	Battery tray extension frame, hold one INES-BT
Blank Battery Tray (INES-BBT)	To cover unused battery tray openings (Required for operator safety and to optimize system cooling)
Rectifier Blank Panel	To cover unused rectifier module openings (Required for operator safety and to optimize system cooling)

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IE
Europe	CE
New Zealand / Australia	C-tick

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy Mini Power Systems

Features

- ▶ 19" 6U or 3U Sub-rack
- ▶ Pre-configured software
- ▶ High power density
- ▶ Fast on-line replacement of rectifiers (Hot-swap)
- ▶ High efficiency and unity power factor
- ▶ Surge protection (optional)
- ▶ Parallel systems option



IMPS225



IMPS325



IMPS525

24V up to 2400W

48V up to 5800W

Intergy Mini Power Systems are the ideal solution for low to medium power telecommunications applications requiring compact, efficient and flexible DC power supplies.

These 19" rack mount systems are available with up to five Intergy Mini Power Systems rectifiers, an integral DC Distribution panel and an SM30 Intergy Supervisory Module. For applications that require only basic control and alarm functions, a Basic Control card option is also available.

Typical applications are providing 24V or 48V standby power for customer premises equipment, road-side terminals, data networks and IP routers.

Intergy Mini Power Systems are pre-configured for fast installation and set-up. All system settings are fully adjustable in software and stored in transfer-

able, configuration files for repeatable one-step system set-up.

Systems can be readily connected in parallel for higher output power. Up to 24 rectifier modules can be controlled from one Master and three slave SM30 Series Intergy Supervisory Modules.

Typical Applications

- ▶ Data networks and IP routers
- ▶ Customer premises equipment
- ▶ Local loop transmission systems
- ▶ Wireless
- ▶ Transmission terminals

Nominal Output Voltage	Rectifier Module Type	IMPS225 with 2 rectifier modules		IMPS325 with 3 rectifier modules		IMPS525 with 5 rectifier modules	
		Output Power	Output Current	Output Power	Output Current	Output Power	Output Current
24V	R524	960W	40A@24V	1440W	60A@24V	2400W	100A@24V
48V	R648	1160W	24A@48V	1740W	36A@48V	2900W	60A@48V
48V	R748	1360W	29A@48V	2040W	42.5A@48V	3400W	71A@48V
48V	R1248	2320W	48A@48V	3480W	72A@48V	5800W	120A@48V

Intergy Mini Power Systems

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	R524/R648: 110/240V, 50/60Hz (nominal) R748: 110V, 60Hz (nominal) R1248: 220/240V, 50/60Hz (nominal)
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	230V AC input: >89% (50 – 100% Output Current) 120V AC input: >88% (50 – 100% Output Current)
DC Output Voltage Range	24V: 22.5 – 30V 48V: 45 – 60V
Operating Temperature Range	R524/R648: -25°C – +70°C [-13°F – +158°F] (Output current is derated above 50°C [122°F]) R748/R1248: -10°C – +70°C [+14°F – +158°F] (Output current is derated above 50°C [122°F])
Dimensions H, W, D	IMPS225 and IMPS325: 3U/133mm [5.25"], 479mm [19"mounting], 275mm [10.8"] overall IMPS525: 6U/266mm [10.5"], 479mm [19"mounting], 275mm [10.8"] overall
Weight	IMPS225: 11kg [24lb] Typical configuration with 2 rectifier modules IMPS325: 12kg [26lb] Typical configuration with 3 rectifier modules IMPS525: 18kg [40lb] Typical configuration with 5 rectifier modules
Supervisory Module	SM30
DC Distribution Module	IMPS225: 8-way load, 2-way battery, Miniature Circuit Breakers (MCBs) IMPS325: 4-way load, 2-way battery, Miniature Circuit Breakers (MCBs) IMPS525: 10-way load, 2-way or 4-way battery, Miniature Circuit Breakers (MCBs)

► Options

Low Voltage Disconnect (LVD)	All models: 100A internal (not available with BCC option). IMPS525 only: 400/800/1200A single or dual external (with LVDCS controller). Contact your local Intergy representative for more information.
AC Surge Protection	MOV surge protection (IMPS525 only)
Supervisory Module Options	Replace SM30 with Basic Control Card (BCC). For further details contact your local Intergy representative.
Cabinet	For desktop or wall mounting
Rectifier Blank Panels	For unused rectifier positions
DCTools	Configuration software. Free download from: www.powerware.com/downloads
PowerManagerII	Remote control and monitoring software
Other Options	All models: Rack panels (ventilation and access), Master-slave configuration (SM30 only) IMPS525 only: AC isolation MCB, AC Metering

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification, NEBS Level 3
Canada	IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit

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Intergy IPS1000 Series

Features

- ▶ Flexible Modular Design
- ▶ Pre-Configured Supervisory Module
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Easily Installed Cabinet
- ▶ Downloadable Configuration Files
- ▶ Designed to Maximize Battery Performance
- ▶ Integrated Battery Stand Option
- ▶ Compliance with International Standards



The Intergy IPS 1000 Series is a compact DC power system, ideal for such applications as Customer Premises Equipment, local office switches, fiber optic terminals and distributed power networks.

Functional and versatile, the Intergy IPS 1000 Series is designed for quick installation, easy commissioning and can be used with the Intergy battery shelf modules to form a complete DC power solution.

At 811mm (16U) high, the Intergy IPS 1000 Series is a compact DC Power system, available in 24V or 48V nominal DC output. Rated up to 360A @ 24V or 180A @ 48V, it can also be paralleled with additional systems for higher currents.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (with 3 rectifier modules)	Maximum Output Current (with 3 rectifier modules)
24V	R2924	up to 3	8.7kW	360A @ 24V
48V	R2948	up to 3	8.7kW	180A @ 48V

Intergy IPS1000 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	310-476V, 3Ø+N+E
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>90% (30 – 100% Output Current)
DC Output Voltage Range	24V: 20 – 35V 48V: 40 – 70V
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F] (Output current is derated above 50°C [122°F])
Dimensions H, W, D	16U Cabinet: 811mm [32.0"], 600mm [23.6"], 600mm [23.6"]
Weight	108kg [165lb] Typical configuration with 3 rectifier modules, excluding batteries
Supervisory Module	SM50 or SM60 Series
AC Distribution Module	ACD09 Series with AC isolator and MOV surge protection
System Modules	4U rack space available

► Options

DC Distribution Module	DCM1600: 16-way, Miniature Circuit Breakers (MCBs) DCM1010: 10-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM2400: 24-way, Miniature Circuit Breakers (MCBs) DCM1610: 16-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCF1000: 10-way, DIN00 HRC Fuses
Low Voltage Disconnect (LVD)	LVD401: 1 x 400A (single LVD unit) LVD402: 2 x 400A (dual LVD unit)
Battery Shelf Modules	BC6 (6U) or BC8 (8U) Available space H, W, D: 290mm [11.4"], 445mm [17.5"], 505cm [19.9"]
Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy IPS2000 Series

Features

- ▶ Flexible Modular Design
- ▶ Pre-Configured Supervisory Module
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Easily Installed Cabinet
- ▶ Wide AC Input Voltage Tolerance
- ▶ Downloadable Configuration Files
- ▶ Designed to Maximize Battery Performance
- ▶ Integrated Battery Stand Option
- ▶ Compliance with International Standards



The Intergy IPS 2000 Series is a compact DC power system, ideal for local office telecommunications, fiber optics, and distributed power networks. Functional and versatile, Intergy IPS 2000 Series is quickly installed, and easily commissioned.

In conjunction with the Intergy battery shelf modules it can form one of the highest density continuous power systems available. With up to 5+1 rectifier module redundancy, the Intergy IPS 2000 Series is available in 24V or 48V nominal DC output. Rated up to 720A @ 24V or 360A @ 48V, it can also be paralleled with additional systems for higher currents.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (with 6 rectifier modules)	Maximim Output Current (with 6 rectifier modules)
24V	R2924	up to 6	17.4kW	720A @ 24V
48V	R2948	up to 6	17.4kW	360A @ 48V

Intergy IPS2000 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	310-476V, 3Ø+N+E
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>90% (30 – 100% Output Current)
DC Output Voltage Range	24V: 20 – 35V 48V: 40 – 70V
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F] (Output current is derated above 50°C [122°F])
Dimensions H, W, D	22U Cabinet: 1077mm [42.4"], 600mm [23.6"], 600mm [23.6"]
Weight	151kg [332lb] Typical configuration with 6 rectifier modules, excluding batteries
Supervisory Module	SM50 or SM60 Series
AC Distribution Module	ACD09 Series with AC isolator and MOV surge protection
System Modules	4U rack space available

► Options

DC Distribution Module	DCM1600: 16-way, Miniature Circuit Breakers (MCBs) DCM1010: 10-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM2400: 24-way, Miniature Circuit Breakers (MCBs) DCM1610: 16-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCF1000: 10-way, DIN00 HRC Fuses
Low Voltage Disconnect (LVD)	LVD401: 1 x 400A (single LVD unit) LVD402: 2 x 400A (dual LVD unit)
Battery Shelf Modules	BC6 (6U) or BC8 (8U) Available space H, W, D: 290mm [11.4"], 445mm [17.5"], 505cm [19.9"]
Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy IPS3000 Series

Features

- ▶ Flexible Modular Design
- ▶ Cabinet Under 2 Metres High
- ▶ Pre-Configured Supervisory Module
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Downloadable Configuration Files
- ▶ Designed to Maximize Battery Performance
- ▶ Wide AC Input Voltage Tolerance
- ▶ Easily Installed Cabinet
- ▶ Removable Cabinet Sides for Easy Installation
- ▶ Optional Parallel System Connection Kit
- ▶ Compliance with International Standards



The Intergy IPS 3000 Series is a high capacity 24V or 48V DC power system, designed for central office, tandem, regional, gateway and other major switches. The Intergy IPS 3000 Series has a rated output up to 900A @ 48V and is designed for parallel connection for higher outputs.

With top and floor access for cables this system has all the versatility and ease of commissioning of the Intergy range, while providing sufficient capacity for large communications power applications. Complying with recognised international standards the Intergy IPS 3000 Series allows up to 8+1 rectifier module redundancy.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (with 9 rectifier modules)	Maximum Output Current (with 9 rectifier modules)
24V	R2924	up to 9	26.1kW	1080A @ 24V
48V	R2948	up to 9	26.1kW	540A @ 48V

Intergy IPS3000 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy Representative.

AC Supply	310-476V, 3Ø+N+E
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>90% (30 – 100% Output Current)
DC Output Voltage Range	24V: 20 – 35V 48V: 40 – 70V
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F] (Output current is derated above 50°C [122°F])
Dimensions H, W, D	42U Cabinet: 1966mm [77.5"], 600mm [23.6"], 600mm [23.6"]
Weight	239kg [526lb] Typical configuration with 9 rectifier modules
Supervisory Module	SM50 or SM60 Series
AC Distribution Module	ACD09 Series with AC isolator and MOV surge protection
System Modules	19U rack space available

► Options

DC Distribution Modules	DCM1010: 10-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM1600: 16-way, Miniature Circuit Breakers (MCBs) DCM1610: 16-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM2400: 24-way, Miniature Circuit Breakers (MCBs) DCF0600: 6-way, DIN00/DIN1/DIN2 HRC Fuses DCF0403: 4-way, DIN3 HRC Fuses
Low Voltage Disconnect (LVD)	LVD401: 1 x 400A (single LVD unit) LVD402: 2 x 400A (dual LVD unit) LVD801: 1 x 800A (single LVD unit) LVD802: 2 x 800A (dual LVD unit) LVD1201: 1 x 1200A (single LVD unit) LVD1202: 2 x 1200A (dual LVD unit)
Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy IPS4000 Series

Features

- ▶ Flexible Modular Design
- ▶ Pre-Configured Supervisory Module
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Downloadable Configuration Files
- ▶ Designed to Maximize Battery Performance
- ▶ Wide AC Input Voltage Tolerance
- ▶ Easily Installed Cabinet
- ▶ Removable Cabinet Sides for Easy Installation
- ▶ Optional Parallel System Connection Kit
- ▶ Compliance with International Standards



The Intergy IPS 4000 Series is a high capacity 24V or 48V DC power system with output up to 1440A @24V or 1080A @ 48V. It is designed for large central office, tandem/toll, regional and gateway switches or similar DC power applications.

This system provides for up to 15+3 or 16+2 rectifier redundancy and systems may be paralleled for higher output. The Intergy IPS 4000 Series uses a flexible modular construction and has a wide range of options available to meet the requirements of any medium to large communications power application.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Power (kW) (with max. number of rectifier modules)	Maximim Output Current (with max. number of rectifier modules)
24V	R2924	up to 12	34.8kW	1440A @ 24V
48V	R2948	up to 18	52.2kW	1080A @ 48V

Intergy IPS4000 Series

► Brief Technical Specifications

AC Supply	310-476V, 3Ø+N+E
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>90% (30 – 100% Output Current)
DC Output Voltage Range	24V: 20 – 35V 48V: 40 – 70V
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F] (Output current is derated above 50°C [122°F])
Dimensions H, W, D	45U Cabinet: 2100mm [82.7"], 600mm [23.6"], 600mm [23.6"]
Weight	9 rectifier modules fitted: 279kg [615lb] typical configuration 12 rectifier modules fitted: 312kg [687lb] typical configuration 15 rectifier modules fitted: 345kg [760lb] typical configuration 18 rectifier modules fitted: 378kg [833lb] typical configuration
Supervisory Module	SM50 or SM60 Series
AC Distribution Module	ACD09 Series with AC isolator and MOV surge protection
System Modules	9 rectifier modules fitted:22U rack space available 12 rectifier modules fitted:16U rack space available 15 rectifier modules fitted:10U rack space available 18 rectifier modules fitted:4U rack space available

► Options

DC Distribution Modules	DCM1010: 10-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM1600: 16-way, Miniature Circuit Breakers (MCBs) DCM1610: 16-way load, 4-way battery, Miniature Circuit Breakers (MCBs) DCM2400: 24-way, Miniature Circuit Breakers (MCBs) DCF0600: 6-way, DIN00/DIN1/DIN2 HRC Fuses DCF0403: 4-way, DIN3 HRC Fuses
Low Voltage Disconnect (LVD)	LVD801: 1 x 800A (single LVD unit) LVD802: 2 x 800A (dual LVD unit) LVD1201: 1 x 1200A (single LVD unit) LVD1202: 2 x 1200A (dual LVD unit)
Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy IPS4000 Medium Power Systems with R3048-10 Rectifiers

Features

- ▶ 45U cabinet
- ▶ Pre-Configured Software
- ▶ High Power Density
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Surge Protection
- ▶ Parallel System Option
- ▶ Temperature Compensation
- ▶ Wide range of DC distribution options



48V up to 72kW (1500A)

The Intergy IPS 4000 series power system with R3048 rectifier modules is the ideal solution for medium power telecommunications applications requiring compact, efficient and flexible DC power supplies.

This 19" rack system is available with up to 24 compact Intergy R3048 rectifier modules that occupy only 20U of rack space. Multi-rack systems up to 378kW (7,800A @ 48V) are also available to special order. All systems include integral DC distribution modules and an Intergy SM50 or SM60 series supervisory module.

Typical applications are providing 48V standby power for wireless networks, transmission systems, local and central office switches and other large switch installations.

The Intergy IPS 4000 series power systems are pre-configured for fast installation and set-up. All

system settings are fully adjustable in software and stored in transferable, configuration files for repeatable one-step system set-up.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Intergy IPS4000 Medium Power Systems with R3048-10 Rectifier Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	3-Phase, 415V, 50/60Hz (nominal)
Power Factor	>0.99 (20 – 100% Maximum System Current)
Efficiency	>90% 20 – 100% Output Current >92% 30 – 85% Output Current
DC Output Voltage Range	40 – 58V
Maximum DC Output Power	72kW, 1500A @ 48V 378kW, 7800A @ 48V (multi-rack systems available to special order).
Operating Temperature Range	-25°C — +50°C (-13°F — 122°F) (Maximum output current is derated above 40°C (104°F) or if the optional rectifier insect screens are fitted)
Dimensions H, W, D	45U cabinet: 2100mm (82.7"), 600mm (23.6"), 600mm (23.6")
Weight	300kg (660lb) Typical configuration with 24 rectifier modules
Supervisory Module	SM50 or SM60 Series
AC Distribution Module	ACD with AC isolator switch and MOV surge protection
DC Distribution Module	See Options

► Options

DC Distribution Module (MCB)	DCM1600/2400: 16-way or 24-way, Miniature Circuit Breakers (MCBs) DCM1010/1610: 10-way or 16-way load, 4-way battery, Miniature Circuit Breakers (MCBs)
DC Distribution (Fuse)	DCF1000: 10-way, DIN00 HRC Fuses DCF0600/0601/0602: 6-way, DIN00, DIN1 or DIN2 HRC Fuses DCF0403: 4-way, DIN3 HRC Fuses
Low Voltage Disconnect (LVD)	LVD801: 1 x 800A (single LVD unit) LVD802: 2 x 800A (dual LVD unit) LVD1201: 1 x 1200A (single LVD unit) LVD1202: 2 x 1200A (dual LVD unit)
Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration Software. Free download from www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
China	MII
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy ILS40600 Series

Features

- ▶ 45U Cabinet
- ▶ Pre-Configured Software
- ▶ High Power Density
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity Power Factor
- ▶ Surge Protection
- ▶ Parallel Systems Option



48V up to 34kW

The Intergy ILS 40600 Series power system is the ideal solution for large power telecommunications applications requiring compact, efficient and flexible DC power supplies.

The Intergy ILS 40600 Series is from the versatile Intergy Large Power System range. This 19" rack system is available with up to six Intergy 5800W rectifiers and an SM50 Series Intergy Supervisory Module.

Typical applications are providing 48V power for wireless networks, transmission systems, local and central office switches and other large switch installations.

The Intergy ILS 40600 Series power systems are pre-configured for fast installation and set-up. All system settings are fully adjustable in

software and stored in transferable, configuration files for repeatable one-step system set-up. Systems can be readily connected in parallel for higher output power.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (with 6 rectifier modules)	Maximum Output Current (with 6 rectifier modules)
48V	R5848	up to 6	34.8kW	7200A @ 48V

Intergy ILS40600 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply*	323-520V, 50/60Hz, 3Ø+N+E
Power Factor*	>0.99 (30 – 100% Output Current)
Efficiency*	>92% (40 – 80% Output Current)
DC Output Voltage Range	43 – 60V
Operating Temperature Range	-10°C — +40°C [+14°F — +104°F] (Output current is derated above 40°C [104°F])
Dimensions H, W, D	45U cabinet: 2100mm [82.7"], 600mm [23.6"], 600mm [23.6"]
Weight	270kg [594lb] Typical configuration with 6 rectifier modules
Supervisory Module	SM50 or SM60 Series
AC Distribution Module*	ACD12 Series with AC isolator switch and MOV surge protection
Total Harmonic Distortion*	5%

*applicable to systems using R5848-55 single phase rectifiers

► Options

Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy ILS41200 Series

Features

- ▶ 45U Cabinet
- ▶ Pre-Configured Software
- ▶ High Power Density
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Efficiency and Unity PowerFactor
- ▶ Surge Protection
- ▶ Parallel Systems Option up to 15,000A



48V up to 70kW, or parallel connected up to 742kW

The Intergy ILS 41200 Series power system is the ideal solution for large power telecommunications applications requiring compact, efficient and flexible DC power supplies.

The Intergy ILS 41200 Series is a standard configuration from the versatile Intergy Large Power System range. This 19" rack system is available with up to twelve Intergy 5800W rectifiers and an SM50 or SM60 series Intergy Supervisory Module.

Typical applications are providing power for wireless networks, transmission systems, local and central office switches and other large switch installations.

The Intergy ILS 41200 Series power systems are pre-configured for fast installation and set-up. All system settings are fully adjustable in

software and stored in transferable, configuration files for repeatable one-step system set-up. Systems can be readily connected in parallel for higher output power.

Typical Applications

- ▶ Wireless
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Nominal Output Voltage	Rectifier Module Type	Number of Rectifier Modules	Maximum Output Power (with 12 rectifier modules)	Maximum Output Current (with 12 rectifier modules)
48V	R5848	up to 12	69.6kW	1440A @ 48V

Up to 15,000A @ 48V with parallel connected systems

Intergy ILS41200 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply*	323-520V, 50/60Hz, 3Ø+N+E
Power Factor*	>0.99 (30 – 100% Output Current)
Efficiency*	>92% (40 – 80% Output Current)
DC Output Voltage Range	43 – 60V
Operating Temperature Range	-10°C — +40°C [+14°F — 104°F (Output current is derated above 40°C [104°F])
Dimensions H, W, D	45U cabinet: 2100mm [82.7"], 600mm [23.6"], 600mm [23.6"]
Weight	360kg [794lb] Typical configuration with 12 rectifier modules
Supervisory Module	SM50 or SM60 Series
AC Distribution Module*	ACD12 Series with AC isolator switch and MOV surge protection
Total Harmonic Distortion*	5%

*applicable to systems using R5848-55 single phase rectifiers

► Options

Rectifier Blank Panels	For unused rectifier positions
System Blank Panels	For unused system module positions
PowerManagerII	Remote control and monitoring software
DCTools	Configuration software. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

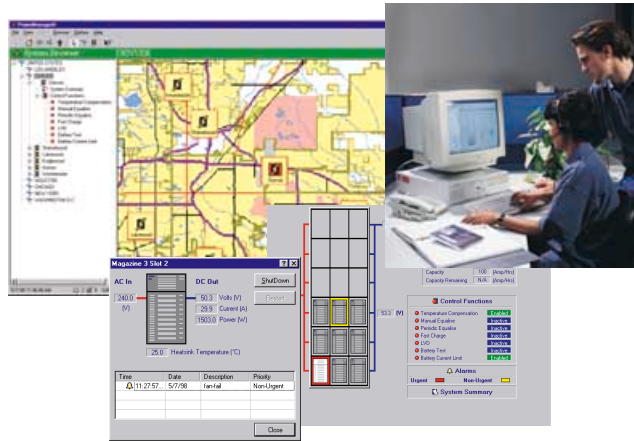
Region	Certification
North America	UL, NEBS Level 3
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy PowerManagerII Control and Monitoring Software

Features

- ▶ Windows® Based Graphical User Interface
- ▶ Real-Time Monitoring
- ▶ Automatic Alarm Indication
- ▶ Alarm and Activity Logging
- ▶ On-Line Access to System Control Functions
- ▶ Reduces the Need for Site Visits
- ▶ International Language Options
- ▶ User Configurable Navigation Maps
- ▶ Remote Battery Testing



PowerManagerII software provides effective remote management for Intergy DC power systems. The intuitive, Windows® - based graphical user interface enables you to quickly 'zoom in' and view concise summary information, or specific control functions, key operational data, or alarm details.

PowerManagerII is cost-effective. Remote management can reduce operating and maintenance costs. The latest power system information is available where and when you want it, greatly reducing the need for site visits. Alarms are highlighted and detailed, to help you analyze faults and produce maintenance histories and schedules.

PowerManagerII is comprehensive. You can connect as many power systems as you like, and all necessary data is clearly presented.

PowerManagerII is flexible. You can set up area map views of urban areas and wider regions, to help you visually navigate to any site—the choices are yours. And it's simple to add new maps and site locations

Remote Control and Monitoring

PowerManagerII can control and monitor power equipment for multiple sites from one central location. It provides real-time graphical displays of system operating conditions, and monitors all system functions. For systems with the SM30 or SM50 Supervisory Module, it will also monitor individual rectifier modules.

Event Logs and Data Logs

PowerManagerII lists data from each site. This includes all alarms, with activation details. Historical data can be recorded for fault analysis

and preparation of maintenance schedules. The information can be filtered, sorted or exported to other applications.

Customization

PowerManagerII is designed for easy customization. Maps and locations of the sites can be added to the PowerManagerII interface. In addition to Intergy Power Systems, air conditioning equipment and intruder alarms and other plant connected to the system Supervisory Module I/O connections, can also be monitored. With the Site Manager option, PowerManagerII can monitor a wide range of inputs using SiteSure modules.

Intergy PowerManagerII Control and Monitoring Software

► Control Functions

For complete product specifications contact your local Intergy representative

PowerManagerII includes graphical displays of all system control processes. All parameters are displayed together with real-time displays of the system operating conditions:

System schematiC	Displays operating conditions and system status.
Individual rectifier	PowerManagerII monitors individual rectifier performance.
System summary	Graphical real-time display of system status.
System control functions	Display of output voltage control systems.
Temperature Compensation	Set temperature compensation parameters for optimum battery charging.
Manual Equalize	Initiate battery equalize charge.
Periodic Equalize	Set the duration and level of auto battery equalize charges.
Fast Charge	Set-up fast battery re-charge parameters for optimum system recovery after mains outage.
Low Voltage Disconnect	Set the operational parameters of the low voltage disconnect module.
Battery Current Limit	Set the maximum battery re-charge current.
Battery Test	Conduct on-line battery tests to determine battery condition.
Discharge Test	Calibrates the Battery Capacity remaining algorithm.

► Data Communication Networks

The Intergy Customer Services Team offers a complete installation and software customization service, and can provide advice on integration of PowerManagerII into existing data networks.

► Brief Technical Specifications

Computer Minimum Requirements	Windows 98, Windows NT 4.0 or later Ram: 16Mb Windows 98, 24Mb Windows NT Standard Serial port (Com port) CD-ROM (3 1/2 inch floppy disc version available on request)
Communications Protocols	SNMP (Can emit traps) S3P three layer protocol
Communications Interfaces	RS232, RS485, Ethernet, TCP/IP, modem
User Configurable Graphic Format	Windows bitmap format (.BMP), or Windows Metafile (.WMF) file formats supported
Hardware Included	Copy protect device, null modem cable

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy DCTools Configuration Software

Features

- ▶ DC power system configuration software
- ▶ Windows® compatible.
- ▶ Easy to use graphical display
- ▶ Operates with all models of Intergy power systems
- ▶ Operates with Intergy CellSure, SiteSure and NES
- ▶ Local (RS232 serial) or remote (dialup modem or Ethernet) connection
- ▶ Downloadable from the Internet at no charge



Intergy DCTools is the new configuration software for field technicians installing and maintaining Intergy DC power systems. It is supplied at no charge by download from the Internet and simplifies the setup and operation of all Intergy power systems.

Frontline staff will find Intergy DCTools is a major benefit during the installation, trouble shooting and support of any Intergy product including Mini, Medium and Large power systems; Network Energy Source power systems, CellSure battery management systems and SiteSure ancillary monitoring and control systems.

For added flexibility DCTools can connect to an Intergy system in three ways; directly through an RS232 serial connection; through a dialup modem, or through an Ethernet LAN/WAN.

Intergy DC Tools Configuration Software

▶ Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Computer Minimum Requirements:	Windows 98, Windows NT 4.0 or later RAM: 16Mb Ram Windows 98, 24Mb Windows NT Standard serial port (Com port) Internet connection required for download only
Communications interfaces supported	RS232, Ethernet, or modem
Free download	www.powerware.com/downloads

In the interests of continual product improvement all specifications are subject to change without notice.

Site Gateway Module

Features

- ▶ Multi-purpose network interface device
- ▶ Powered from 24 or 48V DC
- ▶ Communicates over any TCP/IP network including LAN, WAN, and the Internet.
- ▶ Telnet interface for remote configuration
- ▶ Serial interface for initial setup from any PC
- ▶ Event and error datalogs
- ▶ Cost effective network connectio solution
- ▶ Three mounting options



The ability to easily control and monitor Intergy DC power systems from a remote location is one of their most important features. Now, connecting Intergy products to a communications network has been made even easier with the introduction of the Intergy Site Gateway Module.

The Intergy Site Gateway Module (SGM) is a multi-purpose interface device that allows Intergy DC power systems to be networked in a number of different ways. It can also be powered from 24V or 48V DC so does not need a separate power supply.

The SGM enables an Intergy DC power system fitted with either an SM50 or SM30 supervisory module, or an Intergy CellSure battery monitoring system, to communicate with Intergy PowerManagerII over any TCP/IP network including Local Area Networks (LAN), Wide Area Networks (WAN), and the Internet.

The SGM consists of an Ethernet to serial converter, and supporting software to enable any serial protocol to be carried over TCP/IP. It is also suitable for use with third party products with an RS-232 serial interface that need to communicate with remote management software over the network.

Other useful features are a Telnet interface to allow remote configuration and a local serial interface for initial set-up and configuration.

Site Gateway Module

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	18 to 60V DC
Rated Operating Range	-25 to +70°C [-13 to 158°F]
Data Logging Event log Error log	16 kB 16 kB
Indicators	Status Ethernet link Ethernet activity System activity
Communication Interfaces Host Port (rear panel) Console Port (front panel) System Ports (rear panel)	Ethernet (10BaseT) RJ-45 connection, 10 Mb/s RS-232, DB9 M (DTE), 19,200 b/s RS-232 (D9F), RS-485 (RJ45) and RS-485 (screw terminal block), up to 115200 b/s
Dimensions H, W, D	39mm, 217mm, 150mm [1.5", 8.5", 5.9"]
Mounting options Standard: Optional extra:	Desk top or wall mount 19" rack mount bracket

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick

In the interests of continual product improvement all specifications are subject to change without notice.

SiteSure

Features

- ▶ Modular
- ▶ DIN Rail Mounted
- ▶ Plug-in Connectors
- ▶ Remote Control and Monitoring
- ▶ Real Time Data Collection
- ▶ Compliance with International Standards



SiteSure is a suite of products to provide centralized monitoring of a wide range of inputs from remote sites. It uses the DC power system, communications network and PowerManagerII as a core, but applications extend beyond DC power to monitoring of fire, security, air conditioning, engine alternators and other building services. The SiteSure product suite includes:

PowerManagerII Site Manager Feature

Included in PowerManagerII version 4 and later.

SM30 and SM50 Supervisory Modules

Provides the interface from the SiteSure Modules to the communications network and PowerManager.

SiteSure General Purpose Modules (SSGP)

Provides configurable digital and analog inputs. It allows the collection of status information at the Telecommunications site.

SiteSure Digital Input Modules (SSDI)

Provides additional digital inputs.

SiteSure Digital Output Module (SSDO)

Provides relay outputs for local control or alarm indication.

Intergy Auxiliary Power Module (APM)

Provides additional power where required for larger installations or where sensors require DC power.

Intergy Current Input Module (IOM-CS)

Provides configurable current sensor inputs.

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	18 - 70V
Rated Operating Range	-10°C to +80°C [+14°F to +176°F]
Input/Output	6 (2 configurable as frequency inputs)
SSGP Digital Inputs:	6 (2 configurable as temperature sensors)
SSGP Analog Inputs:	6
IOM-CS Current Inputs:	1
IOM-CS Temperature Input:	1
IOM-CS Digital Input:	12
SSDI Digital Inputs:	8
SSDO Digital Outputs:	1: 12V, 500mA
APM 2 Outputs:	Auxiliary supply 12V for third party equipment
	2: 9V, 400mA.
	Supply for RCP bus extender
Dimensions H, W, D	80mm [3.15"], 27mm [1.06"], 65mm [2.60"]
All modules except APM	80mm [3.15"], 54mm [2.13"], 65mm [2.60"]
APM	

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick

In the interests of continual product improvement all specifications are subject to change without notice.

CellSure

Features

- ▶ Early warning of potential failures
- ▶ Reserve Time remaining on Discharge
- ▶ Accurate battery capacity measurement
- ▶ Patented software algorithm method
- ▶ Cost effective for network wide deployment
- ▶ Integrates with Intergy DC system or stand-alone
- ▶ Remote communications options
- ▶ Graphical data displays
- ▶ Data export capability
- ▶ Real-time monitoring and alarms
- ▶ Modular and expandable
- ▶ Easy to install and operate
- ▶ Remote Battery Testing (with PowerManagerII software)



When there's a power failure there is only one thing between your network never missing a beat and an outage – the battery. Batteries tend to be the forgotten safety net. Rarely needed, they sit quietly waiting to do their job. However, when they are called to action will they be ready?

A battery monitoring system is the best way to keep track of a battery's condition and to highlight ahead of time if any maintenance is needed. But until now the hardware requirements, and the need for regular site visits to setup and run a monitoring system, have made this an expensive option.

Now there's the Intergy CellSure battery monitoring and fault prediction system, from Invensys Energy Systems.

Intergy CellSure provides a method to report on batteries, showing where problems may occur and giving the most important information - reliable battery capacity measurements in real time.

CellSure Battery Monitoring and Fault Prediction

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

The real time functionality of Intergy CellSure is one of its greatest strengths. It allows network operators to see the state of the battery reserves across their whole network at a glance. As the state of the batteries is permanently monitored, they can be kept in peak condition.

Intergy CellSure is based on patented battery monitoring research carried out by Invensys. It uses modular components, is easy to install and can be retrofitted to existing battery systems. It is cost effective so that it can be deployed permanently to all sites in a network, not just the main installations. If Intergy CellSure is used in conjunction with Intergy DC power systems and PowerManagerII remote control software, then test discharges or refresher charges can be carried out without the need for a site visit.

Intergy CellSure will be available for both 24V and 48V battery systems in up to four strings, with either 2V cells or 4V, 6V or 12V monoblocs.

System configurations	
Nominal system voltages:	24V or 48V
Battery strings per system:	1-4 strings
Cell/monobloc voltage:	2V, 4V, 6V or 12V
Battery types:	VRLA (standard) or flooded cells (on request)
Alarms and Indicators	
Controller module indicators:	Status LED, 4 String Alarm LEDs
Controller module alarms:	Voltage free relay contacts (Urgent and Non-urgent)
Inputs	
	Cell/monobloc voltage ($\pm 0.5\%$ accuracy)
	String current ($\pm 1\%$ accuracy)
	Ambient temperature ($\pm 1^{\circ}\text{C}$ accuracy)
	String temperature ($\pm 1^{\circ}\text{C}$ accuracy)
Data Output	
Alarm conditions:	Cell/monobloc voltage low, Cell/monobloc divergence, Discharge voltage low, String temperature, String overcharge, Low capacity, Low charge.
Measured values:	Actual capacity, Reserve charge, Reserve time, "State of health"
Data:	Weekly log: 7day x 24hour cell/monobloc data
	Yearly log: 365day cell/monobloc data (averaged)
	Last two partial discharges.
	Last full discharge.

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy AR1248 Access Rectifier Modules

Features

- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ Automatic Set-up from Supervisory Module
- ▶ Intelligent microprocessor controlled
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Wide AC Supply Conditions
- ▶ Wide Output Voltage Ranges
- ▶ Constant Power Output
- ▶ Compliance with International Standards



The Intergy AR1248 Series of rectifier modules are designed specifically for network access applications such as customer premises equipment, and road-side cabinet installations.

The combination of leading high frequency switch mode technology with high reliability fan cooling makes the AR1248 a flexible, efficient, and reliable DC power source. Designed for operation at up to 70°C (158°F) and under a wide range of AC power conditions means that the AR1248 is perfectly suited to the demanding environments found in network access applications.

The Intergy AR1248 Series rectifiers are up to 90% efficient with optimum performance available at typical load currents, and have power factor correction. Together these give the AR1248 some of the lowest running costs for any DC power system of its type available.

Designed to operate with the Intergy SM40 Series Supervisory Module in an Intergy Access Power System (Fan Cooled Series) the AR1248 rectifier modules will provide years of cost-effective, and trouble free service for your network access equipment.

Intergy AR1248 Access Rectifier Modules

► Brief Technical Specifications

AC Supply	220/240V, 50/60Hz (nominal) 185V-275V: full output up to 50°C [122°F] 150V-185V: full output up to 30°C [86°F]
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	90% (50 – 100% Output Current)
DC Output Voltage Range	48V:40 – 57.5V
DC Output (maximum)	1200W, 25A @48V
Operating Temperature Range	-40°C – +70°C [-40°F – +158°F] (Output current is derated above 50°C [122°F] and below 10°C [14°F])
Cooling	Temperature controlled, high reliability fan
Dimensions H,W,D	3U: 133mm [5.25"], 13E: 66mm [2.6"], 280mm [11"] overall
Weight	1.9kg [4.2lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification, CSA, IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit
Japan	VCCI

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R524 Series

Features

- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ Automatic Set-up from Supervisory Module
- ▶ Optional Stand Alone Operation
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Operates in a Variety of AC Supply Conditions
- ▶ Wide Output Voltage Ranges
- ▶ Constant Power Output Capability
- ▶ Compliance with International Standards



The Intergy R524 Series rectifier module is suitable for any 24V low power telecommunications equipment such as customer premises equipment, road-side cabinets and other subscriber network installations.

The combination of leading high frequency technology with improved thermal design makes a flexible, efficient, and reliable DC power source. Optimum performance is available at typical load currents for minimized running costs. The Intergy R524 Series rectifier is rated up to 90% efficient.

These rectifiers are designed to operate with the Intergy SM30 Supervisory Module, or they will operate in a stand-alone mode.

Intergy R524 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	110/240V, 50/60Hz (nominal)
Power Factor	>0.99 (50 - 100% Output Current)
Efficiency	230V AC input: >89% (50 - 100% Output Current) 120V AC input: >88% (50 - 100% Output Current)
DC Output Voltage Range	24V: 22.5 - 30V
DC Output (Maximum)	480W, 20A @ 24V (240V AC input)
Operating Temperature Range	-25°C – +70°C [-13°F – +158°F] (Output current is derated above 50°C [122°F])
Cooling	Convection cooling
Dimensions H, W, D	3U: 133mm [5.25"], 16E: 81mm [3.2"], 250mm [9.8"] overall
Weight	1.8kg [4lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R648/R748/R1248 Series

Features

- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ Automatic Set-up from Supervisory Module
- ▶ Optional Stand Alone Operation
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Operates in a Variety of AC Supply Conditions
- ▶ Wide Output Voltage Ranges
- ▶ Constant Power Output Capability
- ▶ Compliance with International Standards



The Intergy R648/R748/R1248 Series of rectifier modules are suitable for any low power, 48V telecommunications equipment such as customer premises equipment, road-side cabinets and other subscriber network installations.

The combination of leading high frequency technology with improved thermal design makes a flexible, efficient, and reliable DC power source. Optimum performance is available at typical load currents for minimized running costs. The Intergy R648/R748/R1248 Series rectifiers are rated up to 91% efficient.

These rectifiers are designed to operate with the SM30 Series Supervisory Module in an Intergy Mini or Intergy Network Energy Source power system (R748/R1248). Or they will operate in a stand-alone mode.

Intergy R648/R748/R1248 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	R648: 110/240V, 50/60Hz (nominal) R748: 110V, 60Hz (nominal) R1248: 220/240V, 50/60Hz (nominal)
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	R648: 230V AC input: >91% (50 – 100% Output Current) 120V AC input: >88% (50 – 100% Output Current) R748/R1248: >90% (50 – 100% Output Current)
DC Output Voltage Range	48V: 45 – 60V
DC Output (maximum)	R648: 580W, 12A @ 48V (240V AC input) R748: 680W, 14.2A @ 48V R1248: 1160W, 24A @ 48V
Operating Temperature Range	-40°C – +70°C [-40°F – +158°F] (Output current is derated above 50°C [122°F] and below -10°C [14°F])
Cooling	R648: Convection cooling R748/R1248: Temperature controlled, high reliability fan
Dimensions H, W, D	R648/R748: 3U: 133mm [5.25"], 16E: 81mm [3.2"], 250mm [9.8"] overall R1248: 3U: 133mm [5.25"], 16E: 81mm [3.2"], 275mm [10.8"] overall
Weight	R648: 1.8kg [4lb] R748/R1248: 1.9kg [4.2lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE (except R748)
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R648-35/R1248-35 Series

Features

- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ Automatic Set-up from Supervisory Module
- ▶ Optional Stand Alone Operation
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Operates in a Variety of AC Supply Conditions
- ▶ Wide Output Voltage Ranges
- ▶ Constant Power Output Capability
- ▶ Compliance with International Standards



The Intergy R648-35/R1248-35 Series of rectifier modules are suitable for any low power, 48V telecommunications equipment such as customer premises equipment, road-side cabinets and other subscriber network installations.

The combination of leading high frequency technology with improved thermal design makes a flexible, efficient, and reliable DC power source. Optimum performance is available at typical load currents for minimized running costs. The Intergy R648-35/R1248-35 Series rectifiers are rated up to 91% efficient.

These rectifiers are designed to operate with the SM30 Series Supervisory Module in an Intergy Mini or Intergy Network Energy Source power system (R1248-35). Or they will operate in a stand-alone mode.

Intergy R648-35/R1248-35 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	R648-35: 110/240V, 50/60Hz (nominal) R1248-35: 220/240V, 50/60Hz (nominal)
Power Factor	>0.99 (50 – 100% Output Current)
Efficiency	R648-35: 230V AC input: >91% (50 – 100% Output Current) 120V AC input: >88% (50 – 100% Output Current) R1248-35: >90% (50 – 100% Output Current)
DC Output Voltage Range	R648-35: 45-60V R1248-35: 45-58V
DC Output (maximum)	R648-35: 580W, 12A @ 48V (240V AC input) R1248-35: 1200W, 25A @ 48V
Operating Temperature Range	-25°C – +70°C [-13°F – +158°F] (Output current is derated above 50°C [122°F])
Cooling	R648-35: Convection cooling R1248-35: Temperature controlled, high reliability fan
Dimensions H, W, D	R648-35: 3U: 133mm [5.25"], 16E: 81mm [3.2"], 250mm [9.8"] overall R1248-35: 3U: 133mm [5.25"], 16E: 81mm [3.2"], 275mm [10.8"] overall
Weight	R648-35: 1.8kg [4lb] R1248-35: 1.9kg [4.2lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R2048 Series

Features

- ▶ 48V Nominal Output Rectifiers
- ▶ Fast On-Line Replacement of Rectifiers (Hot Swap)
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Convection Cooled
- ▶ Constant Power Output Capability
- ▶ 6U Height to Comply with Standard Rack Format
- ▶ Cost Effective Modular Component of an Intergy Energy System



The Intergy R2048 series convection cooled rectifier modules are suitable for any high power telecommunications equipment such as customers premises equipment, PBX, central office and subscriber network installations.

The combination of leading high-frequency switch-mode technology with improved thermal design makes a flexible, efficient and reliable DC power source. Optimum performance is available at typical load currents and the rectifiers are over 90% efficient for minimized running costs.

Intergy R2048 series 48V rectifiers are designed to operate with the Intergy SM50 or SM60 series supervisory modules, or will operate in a stand-alone default mode.

Intergy R2048 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	176 to 275Vac rms, 45 to 66Hz, single phase
Power Factor	> 0.95
Efficiency	> 91%
DC Output Voltage Range	42 to 58V
Maximum Output Power	2kW
Maximum Output Current	42A
Start up	Current walk in programmable
Operating Temperature Range	-10°C to +70°C (thermal limiting from 50 °C)
Dimensions H, W, D	265mm x 60mm x 464mm
Weight	8kg

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R2924 Series

Features

- ▶ 24V Nominal Output
- ▶ Positive or Negative Earth (Ground)
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ High Reliability Fan Assisted Cooling
- ▶ Wide DC Output Voltage Range
- ▶ Constant Power Output Capability
- ▶ Minimum Maintenance
- ▶ Compliance with International Standards



These 24V nominal Intergy Medium Power rectifier modules are designed specifically for communications applications. Combining patented switch-mode power technology with microprocessor control, the Intergy R2924 Series rectifiers are intelligent, flexible, reliable, and efficient DC power sources.

Designed to optimize performance at typical loads, these rectifiers have an efficiency of up to 90%, a broad tolerance to AC voltage changes and a near unity power factor. Intergy rectifiers can be replaced on-line with adjustments made automatically by the system supervisory module.

Reliable and robust, these rectifiers include fail-safe microprocessor backup circuitry, current limit protection with adjustable parameters, high temperature turn down and over-voltage protection.

Typical Applications

- ▶ Cellular Network Equipment
- ▶ 24V Transmission Terminals

Intergy R2924 Rectifier Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	220/240V, 50/60Hz (nominal)
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>88% (30 – 100% Output Current)
DC Output Voltage Range	20 – 35V
DC Output (maximum)	2900W, 120A @ 24V
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F] (Output current is derated above 50°C [122°F])
Cooling	Temperature controlled, high reliability fan
Dimensions H, W, D	6U: 246mm [9.7"], 28E: 142mm [5.6"], 325mm [12.8"]
Weight	11kg [24.2lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R2948 Series

Features

- ▶ 48V Nominal Output
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ High Reliability Fan Assisted Cooling
- ▶ Wide DC Output Voltage Range
- ▶ Constant Power Output Capability
- ▶ Minimum Maintenance
- ▶ Compliance with International Standards



These 48V nominal Intergy Medium Power rectifier modules are designed specifically for communications applications. Combining patented switch-mode power technology with microprocessor control, the Intergy R2948 Series rectifiers are intelligent, flexible, reliable, and efficient DC power sources.

Designed to optimize performance at typical loads, these rectifiers have an efficiency of up to 92%, a broad tolerance to AC voltage changes and a near unity power factor. Intergy rectifiers can be replaced on-line with adjustments made automatically by the system supervisory module.

Reliable and robust, these rectifiers include fail-safe microprocessor backup circuitry, current limit protection with adjustable parameters, high temperature turn down and over-voltage protection.

Typical Applications

- ▶ Central Office Power Systems
- ▶ Cellular Switching Centres and Cell Sites
- ▶ Central Office Broadband/Multiplex

Intergy R2948 Rectifier Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	220/240V, 50/60Hz (nominal)
Power Factor	>0.99 (30 – 100% Output Current)
Efficiency	>90% (30 – 100% Output Current)
DC Output Voltage Range	40 – 60V or 40 – 70V without CE compliance
DC Output (maximum)	2900W, 60A @ 48V, derates above 50°C [122°F]
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F]
Cooling	Temperature controlled, high reliability fan
Dimensions H, W, D	6U: 246mm [9.7"], 28E: 142mm [5.6"], 325mm [12.8"]
Weight	11kg [24.2lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R3048-10 Rectifier Modules

Features

- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ Automatic Set-up from Supervisory Module
- ▶ Intelligent microprocessor controlled
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Wide AC Supply Conditions
- ▶ Wide Output Voltage Range
- ▶ Constant Power or Constant Current Output Modes
- ▶ Field Serviceable Air Filter
- ▶ Compliance with International Standards



The Intergy R3048 Series of rectifier modules is designed for a wide range of telecommunications applications including switching, wireless, and transmission.

The combination of leading high frequency switch mode technology with high reliability fan cooling makes the R3048 a flexible, efficient, and reliable DC power source. It is designed for operation at up to 70°C (158°F) and under a wide range of AC power conditions.

The Intergy R3048 Series rectifiers are up to 92% efficient with optimum performance available at typical load currents. These rectifiers also offer two output modes; either constant power or constant current.

Designed to operate with the Intergy SM50 or SM60 Series Supervisory Modules the R3048 rectifier modules will provide years of cost-effective, and trouble free service for your network equipment.

Intergy R3048-10 Rectifier Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	240V, 50/60Hz (nominal)
Power Factor	> 0.99 (20 – 100% Output Current)
Efficiency	> 90% for 20 – 100% Output Current > 92% for 30 – 85% Output Current
DC Output Voltage Range	40 – 58V
DC Output (maximum)	Constant power mode: 3000W (62.5A @48V) Constant current mode: 52A
Power Density	6 Rectifiers: 375A in 5U/19-inch (10W/cu.inch)
Operating Temperature Range	-25°C – +70°C [-13°F – +158°F] (Maximum output current is derated above 40°C (104°F) or if the optional insect screen is fitted)
Cooling	Dual, temperature controlled, high reliability fans
Dimensions H,W,D	5U: 220mm [8.75"], 70mm [2.75"], 326mm [12.8"] overall
Weight	5.3kg [11.7lb]

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
China	MII
Europe	CE
New Zealand / Australia	C-tick, Telepermit

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy R5848 Series

Features

- ▶ Wide AC Input Voltage Tolerance
- ▶ Fast On-Line Replacement of Rectifiers (Hot-Swap)
- ▶ High Power Density
- ▶ High Efficiency and Unity Power Factor
- ▶ Fan Assisted Cooling
- ▶ Wide DC Output Voltage Range
- ▶ Constant Power Output Capability
- ▶ Adjustable Boost Capability
- ▶ Active Load Sharing
- ▶ Central Point Monitoring and Control
- ▶ Compliance with International Standards



The Intergy R5848 Series is designed specifically for high power communications applications. Designed to optimize performance at typical loads, Intergy R5848 Series rectifiers have efficiency greater than 92% and a broad tolerance to AC voltage changes. Intergy rectifiers can be replaced on-line with adjustments made automatically by the system supervisory module.

The R5848 Intergy rectifier offers full central point monitoring and control or can be operated as a stand-alone power supply with front panel adjustment.

Reliable and robust, these rectifiers include fail-safe microprocessor backup circuitry, current limit protection with adjustable parameters, high temperature turn down, short circuit protection and over-voltage protection.

Typical Applications

- ▶ Central Office Power Systems
- ▶ Cellular Switching Centres
- ▶ Central Office Broadband/Multiplex
- ▶ Stand-alone 120A Power Supply
- ▶ Semi-Distributed/Facility Based Power Plants

Intergy R5848 Rectifier Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

AC Supply	R5848-55 (1Ø): 150-300V, 50/60Hz (nominal) Output current is derated below 186V R5848-11/15 (3Ø): 260-520V, 50/60Hz (nominal) Output current is derated below 323V
Power Factor	R5848-55: >0.99 (30-100% Output Current) R5848-11/-15: >0.95 (30-100% Output Current)
Efficiency	R5848-55: >92% (30-100% Output Current) R5848-11/-15: >93% (30-100% Output Current)
DC Output Voltage Range	R5848-11: 43 – 68V R5848-15/-55: 43 – 60V
DC Output (maximum)	5800W, 120A @ 48V
Operating Temperature Range	R5848-55: -25 °C — +70°C [-13°F — +158°F] Output current is derated above 45°C [113°F] R5848-11/-15: -25 °C — +70°C [-13°F — +158°F] Output current is derated above 40°C [104°F]
Cooling	Dual, temperature controlled, high reliability fans
Dimensions H, W, D	3U: 133mm [5.25"], 475mm [19" mounting], 340mm [13.4"]
Weight	15kg [33lb]

In the interests of continual product improvement all specifications are subject to change without notice.

Basic Control Card (BCC)

Features

- ▶ Basic Alarm Functions
- ▶ Float Voltage Control
- ▶ Temperature Compensation
- ▶ Low Power Consumption
- ▶ Voltage Test Points



The BCC is a system supervisory module that provides basic control and monitoring functions for the Intergy Series Mini Power Systems. It is the ideal solution for systems where only minimum control and alarm features are required.

The BCC allows manual adjustment of the system float voltage and the system voltage alarm, adjustable to either high or low volts. An AC Supply Fail (Mains Fail) and Rectifier fail alarm is provided. Relay alarm outputs are included, for connection to an external alarm monitoring system. Temperature compensation adjustment of the float voltage is also provided.

Basic Control Card (BCC)

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	18V – 60V
Operating Range	-10°C — +50°C [+14°F — +122°F]
Alarm relay outputs	Voltage free, 1A @ 100V DC Screw terminals, 1.5mm2
Alarms	System voltage (adjustable high/low), AC Supply Fail (Mains Fail), Rectifier Fail

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy SM30 Supervisory Modules

Features

- ▶ Pre-Loaded Customized Configuration File
- ▶ Low Power Consumption
- ▶ Temperature Compensation
- ▶ Battery State Monitoring
- ▶ Battery Current Limiting
- ▶ Optional LCD Display and Keypad Controls
- ▶ Optional Configuration Editor Software
- ▶ Compliance with International Standards



The Intergy SM30 microprocessor-based system supervisory modules provide the control and monitoring functions for the Intergy Series Mini Power Systems.

The SM30 supervisory modules are built in to the DC distribution module and are supplied factory pre-configured ready for immediate use. All system parameters are stored in transferable configuration files for convenient management of system set-up. The SM30 can also be re-configured on-site using the Windows compatible Intergy DCTools configuration software via the front panel RS232 communication port.

The SM30 supervisory modules provide full control of system voltage, load current, status and

alarms, which can be displayed and changed on the optional LCD display and keypad. The SM30 also offers modem control, master/slave system capability, an audible alarm and battery test functionality.

Intergy SM30 Supervisory Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	18 – 60V
Rated Operating Range	-10°C — +50°C [+14°F — +122°F]
Alarm Relay Outputs	Screw terminal, 1.5mm2, 1 conductor
Input/Output	
Analog Inputs	Current sensor/shunt (2), Bus Voltage (1), temperature (1)
Digital Inputs	3
Relay Outputs (7 available)	Voltage free, NO-C-NC, 1A @ 100V DC
Communications	RS232 (direct or modem), RS485
Display (optional)	4 digit, 7 segment LCD, with 13 status indicator symbols and 16-segment bar graph, backlit
Alarm Indicators	Fuse fail, mains fail, low float, low load, high float, high load, current limit, over temperature, battery temperature
Keypad (optional)	Membrane type (4 keys: Enter, Up, Down, Escape)
Configuration Software	DCTools. Free download from: www.powerware.com/downloads

In the interests of continual product improvement all specifications are subject to change without notice.

Features

- ▶ Pre-Loaded Configuration File
- ▶ Temperature Compensation
- ▶ Serial Control (24 rectifiers)
- ▶ Battery Test
- ▶ Controls up to two Low Voltage Disconnects (LVD)
- ▶ Battery Current Limiting
- ▶ Interfaces to Intergy SiteSure Input/Output
- ▶ Multi language options
- ▶ DCTools
- ▶ Compliance with International Standards
- ▶ Local, PSTN, GSM or TCP/IP communications options
- ▶ Datalogging

Intergy SM40 Supervisory Modules



The Intergy SM40 microprocessor-based system supervisory modules provide the control and monitoring functions for the Intergy Access Power Systems.

The SM40 supervisory module is supplied factory-preconfigured, ready for immediate use. All system parameters are stored in transferable configuration files for convenient management of system set-up. The SM40 can also be re-configured on-site using the Windows compatible Intergy DCTools configuration software via the front panel RS232 communication port.

The SM40 supervisory module provides full control of system voltage, load current, status and alarms, which can be displayed and changed on the optional LCD display and keypad. The SM40 also offers modem control (PSTN and

GSM), an audible alarm and battery test functionality.

Using the GSM modem option status and alarm messages can be sent to any SMS text message compatible mobile phone. TCP/IP communications is available with the Intergy Site Gateway Module.

Intergy SM40 Supervisory Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

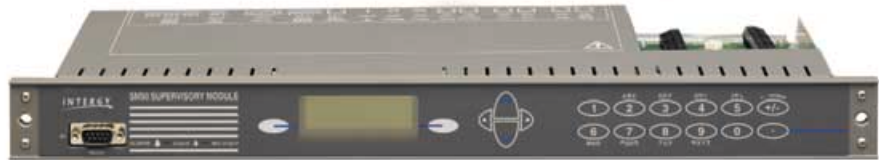
Supply Voltage Range	38-60V
Rated Operating Range	-10°C — +70°C [+14°F — +158°F]
Input/Output Analog Inputs Digital Inputs Relay Outputs SiteSure Support (optional)	Current sensor/shunt (2), Bus Voltage (1), Temperature (2) Up to 6 Up to 6 (5 configurable, 1 reserved) 6 analog inputs 18 digital inputs 8 digital outputs
Communications Interface Software Modems (optional) SMS messaging	RS232 PowerManagerII remote monitoring software DCTools configuration software (free download from www.powerware.com/downloads) Supports PSTN or GSM external modems System Status Messages and Alarms Messages. Requires external GSM modem.
Display and keypad (optional)	Display: Back-lit dot matrix LCD Keypad: Membrane type, 5 keys
Indicators	Power on Urgent Alarm Non-urgent alarm
Datalogging	100 record Event Log

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy SM50 Series

Features

- ▶ Easy-to-Use Menu Driven Front Panel Controls
- ▶ Pre-Loaded Customized Configuration File
- ▶ Multi-Level Password Security
- ▶ Low Power Consumption
- ▶ Optional Configuration Editor Software
- ▶ Compliance with International Standards
- ▶ Remote Communications Option



The SM50 is a microprocessor based system supervisory module that controls and monitors the Intergy Medium and Large Power Systems. It allows complete operational flexibility by using a software configuration file to programme all of a system's operating parameters.

Each SM50 is supplied pre-programmed with either a default or a customized configuration file, making the system ready for use at the time of installation. The installer can do customization prior to delivery, or on-site. On-site changes to the configuration file can be made using the computer based Configuration Editor software or the SM50 front panel controls.

The LCD front panel display provides the system

voltage, currents, alarms, detailed battery and rectifier values and other operational conditions. The pushbutton controls also allow manual activation of certain system operations such as equalize charging. Multi-level password access is provided to safeguard against accidental or unauthorised parameter changes.

Intergy SM50 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	16 - 70V
Rated Operating Range	-10°C — +50°C [+14°F — +122°F]
Alarm Relay Outputs	Screw terminal, 2.5mm ² maximum conductors
Input/Output	Current Sensor/Shunt (3), Bus Voltage (1), Temperature (1)
Analog Inputs	Internal: 8 pre-defined
Digital Inputs	External: 6 user configurable
Relay Outputs (10 available)	Voltage free, COM-NC-NO, 0.5A @ 100V DC
Communications	RS232 for use with Configuration Editor software RS232/422/485 for use with PowerManager remote control monitoring software
Display Type	LCD, backlit with adjustable viewing angle
Keypad	Membrane type (cursor control, display softkeys, alphanumeric keypad)
Dimensions H, W, D	1U: 44.5mm [1.75"], 480mm [19" mounting], 176mm [6.9"]
Configuration Software	DCTools. Free download from: www.powerware.com/downloads

► Certifications

All products comply with International Standards. Contact your local Intergy representative for details on the specific product versions available with these safety and EMC approvals:

Region	Certification
North America	UL, FCC Verification
Canada	IC
Europe	CE
New Zealand / Australia	C-tick

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy SM60 Supervisory Modules

Features

- ▶ Comprehensive system control functions
- ▶ Simplified front panel controls
- ▶ Large area LCD screen
- ▶ Pre-loaded customized configuration file
- ▶ Cost effective control of Intergy Medium and Large Systems
- ▶ Complies with International Standards
- ▶ Remote communications options
- ▶ Configurable using Intergy DCTools configuration software
- ▶ Sliding mounting option
- ▶ Supports Intergy SiteSure modules for ancillary equipment monitoring and control



The Intergy SM60 supervisory module is a cost-effective control and monitoring solution for the Intergy Access, Medium and Large range of power systems.

It provides all the necessary functionality for most DC power applications, with the advantage of a simple menu driven interface. Like all Intergy supervisory modules it is supplied pre-configured with either a default configuration file, or with one factory customized for a particular application. This ensures fast and problem free installation. If on-site changes are needed then these can be easily made from the front panel or with a Windows PC using Intergy DCTools configuration software.

The front panel incorporates a bright backlit LCD display with easy to read characters. All system values and alarms can be displayed and the keypad provides easy access to check or edit settings. The Intergy SM60 can replace the Intergy SM50 in most

Intergy Medium and Large power systems. When used with larger Intergy Access Power Systems (IAPS), in place of the Intergy SM40, it allows the use of the wide range of Intergy 19" mount system modules.

The Intergy SM60 is available with either fixed mounting brackets or an optional slider magazine and cable support tray for easier access to cable connections.

Typical Applications

- ▶ 24V and 48V Power systems
- ▶ Wireless cell sites and switches
- ▶ Transmission Terminals
- ▶ Local and Central Office Switching

Intergy SM60 Supervisory Modules

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Supply Voltage Range	18 to 60V DC
Rated Operating Range	-10 to +60°C [14 to 140°F]
Input / Output Standard Analogue inputs: Digital inputs: Relay outputs:	4: Current sensor (2), Bus voltage (1), Temperature (1) 12: Internal (pre-predefined), 6 external (user-defined) 6: (5 user-defined, 1 pre-predefined) Voltage free, NO-C-NC, 0.5A @ 100VDC Screw terminal block, 1.5mm ² conductors
Input / Output Optional (with SiteSure modules) Analogue inputs: Digital inputs: Digital outputs:	12 18 12
Communications Interface: Software: Modems (optional): SMS messaging:	RS232 PowerManagerII remote monitoring software DCTools configuration software (free download from www.powerware.com/intergy/downloads) Supports PSTN or GSM external modems System Status Messages and Alarm Messages. Requires external GSM modem.
Display	Back-lit dot matrix LCD Adjustable viewing angle
Keypad	5 keys
Indicators	Power on Urgent alarm Non-Urgent alarm
Dimensions H, W, D	1U: 44.5mm, 480mm, 150mm [1.75", 19" mounting, 6"] (depth excludes optional cable support tray)
Mounting options Standard: Optional extra:	Fixed brackets Slider magazine with cable support tray
Datalogging	100 record Event Log

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy DCM1000/1600/2400 Series

Features

- ▶ Up to 24-Way MCB Distributions
- ▶ Selection of MCB Ratings
1A – 125A
- ▶ Compact 4U Modules
- ▶ Tool Access Front Cover
- ▶ Front Access for Cable Termination
- ▶ MCB Alarms with Load Detection
- ▶ Optional Battery MCBs
- ▶ Optional Low Voltage Disconnect
- ▶ Compliance with International Standards



The Intergy DCM range of Miniature Circuit Breaker (MCBs) DC distributions provides circuit protection for a wide selection of telecommunications loads up to 1200A. All MCBs are alarmed with automatic detection of load current to prevent false alarms from unused MCBs.

The DCM range is designed to comply with recognised international standards and for complete operator safety. Full front access is provided to allow easy termination of load and battery cables. Optional features include Low Voltage Disconnect (LVD) modules, to provide deep-discharge protection for valve regulated lead acid (VRLA) batteries, and separate battery circuit breakers.

Model	Load MCBs	Battery MCBs (optional)	LVDs (optional)
DCM1010	up to 10 x C120 type (10A-125A)	up to 4 x C120 type (63A-125A)	1 x 400A
DCM1600	up to 16 x C120 type (10A-125A)	-	1 x 400A or 2 x 400A
DCM1610	up to 16 x C60 type (1A-63A)	up to 4 x C120 type (63A-125A)	1 x 400A
DCM2400	up to 24 x C60 type (1A-63A)	- -	1 x 400A or 2 x 400A

Intergy DCM1000/1600/2400 Series

► Brief Technical Specifications

Voltage Range	8.7 – 70V
Maximum Current	DCM1010/DCM1610: 400A @ 50°C [122°F] DCM1600/DCM2400: 1200A @ 50°C [122°F]
MCB Current Ratings C60 type: C120 type:	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A
Alarms Load MCB Fail Alarm: Battery MCB Fail Alarm:	Electronic type with load detection Auxillary contacts
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F]
Dimensions H, W, D	4U: 177mm [7.0"], 480mm [19" mounting], [18.9"], 165mm [6.5"]
Certifications	CE (Europe) Equivalent products with UL and NEBS Level 3 approvals are also available. Contact your local Intergy representative for details.

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy DCF1000/0600/0403 Series

Features

- ▶ Up to 10-Way HRC Fuse Distributions
- ▶ Wide Selection of Fuses 20A – 630A
- ▶ Easy Fuse Removal
- ▶ Tool Access Front Cover
- ▶ Front Access for Cable Termination
- ▶ Electronic Fuse Fail Alarms with Load Detection
- ▶ MCBs for Mixed Load and Battery Protection
- ▶ Compliance with International Standards



The Intergy DCF range of DC distribution modules provide protection for communications loads up to 2520A, using HRC type fuses in sizes from DIN00 to DIN3.

All fuses are alarmed, with automatic detection of load current to prevent false alarms from unused fuse positions. The hinged front panel minimizes cable installation time by providing front access to the termination points. The panel is tool removable only, for operator safety. Optional miniature circuit breakers (MCBs) may be added to some models in the DCF range to provide for mixtures of high and low current loads or to provide battery fuses and load MCBs in one compact module.

Designed to comply with recognized international standards the DCF range provides a flexible, modular range of DC distributions specifically for communications applications.

Model	Fuses	MCBs (optional)	LVDs (optional)
DCF1000	up to 10 x DIN00 (20A-150A)	-	1 x 400A or 2 x 400
DCF0600	up to 6 x DIN00 (20A-160A)	refer to options	1 x 400A or 2 x 400
DCF0601	up to 6 x DIN1 (63A-250A)	refer to options	1 x 400A or 2 x 400
DCF0602	up to 6 x DIN2 (100-4000A)	refer to options	1 x 400A or 2 x 400
DCF0403	up to 4 x DIN3 (400-630A)	-	-

Intergy DCF1000/0600/0403 Series

► Brief Technical Specifications

Voltage Range	8.7 – 70V
Maximum Current DCF1000 DCF0600 DCF0601 DCF0602 DCF0403	1600A 960A 1500A 2400A 2520A
Fuse Current Ratings DIN00 DIN1 DIN2 DIN3	20A, 32A, 40A, 50A, 63A, 80A, 100A, 125A, 160A 63A, 100A, 125A, 160A, 200A, 250A 100A, 200A, 250A, 315A, 400A 400A, 500A, 630A
Alarms	Fuse Fail Alarm:Electronic type with load detection Stand Alone Operation:Auxiliary contacts for external alarm
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F]
Dimensions H, W, D DCF1000 DCF0600/01/02 DCF0403	4U: 177mm [7.0"], 480mm [19" mounting], 195mm [7.7"] 6U: 266mm [10.5"], 480mm [19" mounting], 181mm [7.1"] 7U: 311mm [12.25"], 480mm [19" mounting], 236mm [9.3"]
Certifications	CE (Europe) Equivalent products with UL and NEBS Level 3 approvals are also available. Contact your local Intergy representative for details.

► Options

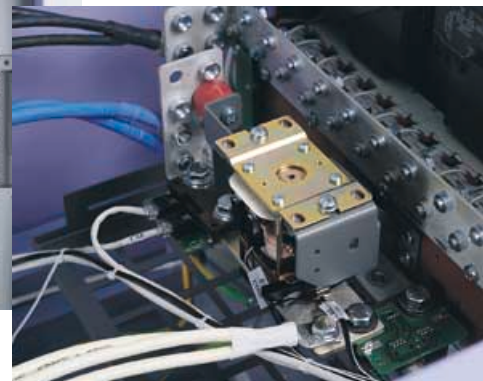
MCB Options DCF0600, DCF0601, DCF0602 Series only Option 1 Option 2	Replace 2 fuses with: up to 7 x C60 type (1A – 63A) or up to 5 x C120 type (10A – 125A) Replace 4 fuses with: up to 15 x C60 type (1A – 63A) or up to 10 x C120 type (10A – 125A)
MCB Current Ratings C60 type: C120 type:	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A
LVD Options DCF0600 Series only LVD 401: LVD 402:	1 x 400A 2 x 400A

In the interests of continual product improvement all specifications are subject to change without notice.

LVD400/800/1200

Features

- ▶ Ratings from 400A – 1200A
- ▶ Compact 4U or Internal Modules
- ▶ Configurable from Supervisory Module
- ▶ Battery or Load Disconnect Functions
- ▶ Fail and Isolation Alarms
- ▶ Front Access for Cable Termination
- ▶ Multiple Modules Can Be Cascaded



The Intergy range of Low Voltage Disconnect (LVD) modules provide automatic over-discharge protection for valve regulated lead acid (VRLA) batteries. Available in a range of sizes, the units are easily configured from the SM50 or SM30 (with LVD Controller) Intergy Supervisory Modules.

Intergy LVD modules use high reliability, non-latching contactors, with individual manual isolate controls for safe battery maintenance. The modules may be connected in either battery disconnect or load disconnect configuration and are fully alarmed. The hinged front panel allows easy access for cable terminations and is tool removable only, for operator safety.

The rack mounting models are compact and require only 4U of rack space while providing for the connection of up to 1200A loads. A

400A-rated model is also available which fits internally in any of the Intergy DCM and DCF range of MCB and fuse type DC Distribution Modules.

Model	Number of Contactors	Maximum Current Rating per Contactor	Mounting Style
LVD400/401	1	400A	Internal module for DCM and DCF Series Distributions*
LVD402	2	400A	Internal module for DCM and DCF Series Distributions*
LVD801	1	800A	19" Rack module (4U)
LVD802	2	1200A	19" Rack module (4U)
LVD1201	1	1200A	19" Rack module (4U)
LVD1202	2	1200A	19" Rack module (4U)

* Contact your local Intergy Representative for specific model.

LVD400/800/1200 Series

► Brief Technical Specifications

For complete product specifications contact your local Intergy representative

Voltage Range	17.7 – 60V
Connection Mode	Load disconnect or battery disconnect
Settings	
Disconnect Voltage:	40.0V – 60.0V typical preset 44V or 22V
Reconnect Voltage:	40.0V – 60.0V typical preset 48V or 24V
	All settings are made from the SM50 Supervisory Module
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F]
Dimensions H, W, D	
LVD400/401:	140mm [5.5"], 250mm [9.8"], 120mm [4.7"]
LVD402:	140mm [5.5"], 300mm [11.8"], 120mm [4.7"]
Other models:	4U: 176mm [7.0"], 480mm [19" mounting], 350mm [13.7"]
Option	LVD Controller for use with SM30 Supervisory Module in Intergy Mini Systems
Certifications	CE (Europe) Equivalent products with UL and NEBS Level 3 approvals are also available. Contact your local Intergy representative for details.

In the interests of continual product improvement all specifications are subject to change without notice.

Intergy ACD09/12/18/36

Features

- ▶ AC Isolator Switch (except ACD36)
- ▶ Field Replaceable Surge Protection
- ▶ Compliance with International Standards
- ▶ Modular Design Complies with IEC 297



The Intergy ACD09/12/18/36 Series of AC Distribution Modules are designed for quick and easy connection of the AC supply to the Intergy range of power systems.

The ACD modules design ensures safe and convenient operation. Field replaceable surge protection devices on each phase and neutral, are provided as standard and are alarmed to ensure a consistently high level of protection from AC supply disturbances.

The ACD09, ACD12 and ACD18 modules are complete with AC isolator and all models have a tool removable front cover for operator safety.

Intergy ACD09/12/18/36 Series

► Brief Technical Specifications

Voltage Range	1Ø: 220/240V, 50/60Hz 3Ø: 380/415V,50/60Hz
AC Distribution Networks	Multiple Earth Neutral (MEN), TN-C-C, TT, TN-C or TN-S
AC Isolator: ACD09 Series ACD12 Series ACD18 Series ACD36 Series	3-pole MCB, 80A 3-pole switch, 160A 3-pole MCB, 125A Requires external isolation (160A)
Rectifier MCB ACD09 Series	up to 9-way, single pole, 32A (10kA for CE approved, 5kA for UL approved)
ACD12 Series	up to 12-way, single pole, 50A (10kA for CE approved, 5kA for UL approved)
ACD18 Series	up to 18-way, single pole, 32A (10kA for CE approved, 5kA for UL approved)
ACD36 Series	up to 12-way, 3-phase 32A (10kA for CE approved, 5kA for UL approved)
Operating Temperature Range	-10°C — +50°C [+14°F — +122°F]
Dimensions H, W, D ACD09/18 Series ACD12/36 Series	4U: 176mm [7.0"], 483mm [19" mounting], 150mm [6.0"] 6U: 267mm [10.5"], 440mm [19" mounting], 150mm [6.0"]
Certifications	CE (Europe) Equivalent products with UL and NEBS Level 3 approvals are also available. Contact your local Intergy representative for details.

In the interests of continual product improvement all specifications are subject to change without notice.

Customer Services

Technical Help Desk

► 24 hours 7 days

Phone: (+64) 3 343 7448

or Email:

nz.customerservice@powerware.com

(response next business day)



The Intergy range of DC power products is backed by expert technical support and customer services. This includes installation and maintenance services, repairs and training courses.

The Intergy Customer Service Team offers a wide range of flexible and targeted service options designed to provide a full range of customer support services.

Experienced staff are available 24 hours a day on an international help line. They can provide expert advice on all Intergy products, as well as provide information on repairs and other services.

Design Services

Skilled technical staff can provide a full design for DC power equipment to specifically suit individual applications and sites. Using the modular and comprehensive range of Intergy product, a system can be easily designed for any application and for use anywhere throughout a network.

Advice is given on power equipment, capacity, functionality and battery requirements for installations.

On-Site Services

Installation and commissioning services are available for Intergy power systems anywhere in the world. Installation teams are made up of fully trained customer service engineers. Installation and commissioning of the Intergy DC power equipment can be either by providing supervision and assistance of local staff or by providing complete work crews.

Regional Repair Sites

If a phone call isn't enough and additional assistance is required, Regional Repair Sites, staffed by fully trained technicians, are located globally.

- Highly skilled technicians
- Access to engineering support
- Fast access to spare parts
- Rapid turnaround time

Customer Services

► Standard Warranty

Invensys Energy Systems offers all customers a comprehensive standard warranty on all Intergy products. This covers against defects in materials and manufacture for 12 months from the date of dispatch.

► Extended Warranty

The extended warranty option offers customers a choice of a 2, 3, 4, or 5 year warranty period from the date of dispatch with all other conditions as given in the standard warranty. Extended warranties can only be purchased at the time of original sale.

► Service Contracts

Invensys Energy Systems recognises that each customer has individual needs and requirements. Individually tailored Service Contracts are available so that customers can choose the ongoing service package that best suits their requirements. Services available include options such as unlimited out-of-warranty repairs, immediate replacement, on-site maintenance and battery testing and conditioning.

Please contact Intergy Customer Services for further information.

► Training Courses

The Intergy range of DC power systems is supported by a comprehensive customer training scheme that covers a wide range of topics. The training has been carefully designed to provide the right level of product knowledge and includes practical demonstrations and hands-on opportunities. Courses can be arranged at an Invensys Energy Systems location near you, or at your site. Courses can be tailored for individual requirements, and include practical demonstrations and full documentation.

Topics include:

- Installation and commissioning procedures
- Operations
- Routine maintenance

Please contact your local Intergy representative for further information.