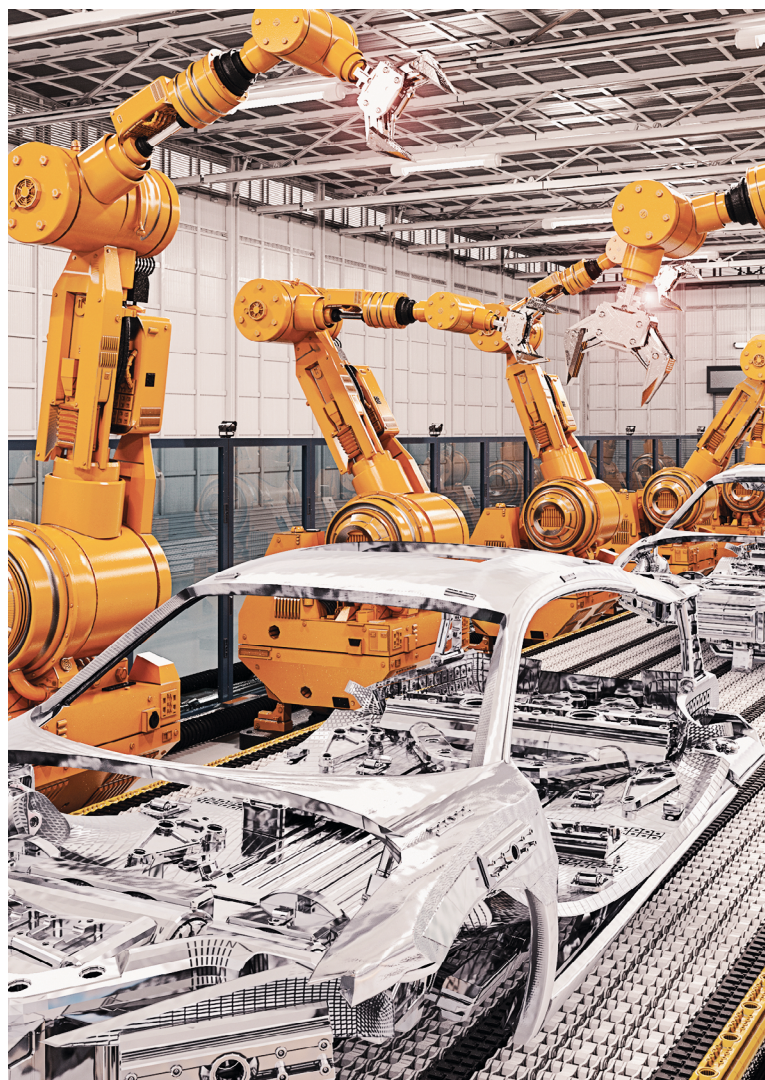


DIN RAIL POWER SUPPLIES & DC POWER PRODUCTS

PULS



pulspower.us

PRODUCT SELECTION GUIDE NORTH AMERICA

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PULS: The Technology Leader

Efficient. Reliable. Innovative.

When Bernhard Erdl founded PULS in 1980, he and a small group of developers shared a common vision: to push the boundaries of industrial power supply technology. The quality and reliability of our products is at the core of everything we do at PULS. Many PULS innovations and user-friendly features—including DIN rail mounting, power reserves and wide operating temperatures—have been widely adopted and become industry standards. PULS continues under the leadership and vision of Mr. Erdl and has grown into the global leader in the design, development and manufacture of high performance, energy efficient DC power solutions.

PULS dedicates 100 % of our company resources and attention to industrial DC power solutions. Our products are the result of the expertise and pioneering spirit of over 100 development engineers. We always think one step ahead and are ready and willing to go the extra mile. Industry-leading energy efficiency ratings, small form factors and extended service lifetimes provide users with the lowest total cost of ownership that meets the demanding requirements of today's manufacturing environments. Thanks to the long-term availability and stability of our product portfolio, our customers can plan without worrying about obsolescence or sudden design changes.

Innovation can be found throughout PULS, from our inspiring and unique locations around the globe to our state-of-the-art

manufacturing facilities in Europe and Asia. All PULS products are manufactured in plants wholly-owned and operated by PULS. During customer site visits and audits, our manufacturing facilities are routinely praised for the streamlined, efficient and repeatable production processes. The entire supply chain is managed by PULS—starting with design and development, purchasing and manufacture to local inventories—ensuring the highest standards, timely delivery and absolute reliability.

We stock every product listed in this Selection Guide in our North American HQ conveniently located in the Chicago suburbs. PULS products are utilized in a wide variety of applications and industries, including intralogistics and material handling, automotive, food & beverage, semiconductor, process automation, robotics, intelligent traffic solutions, energy management and many others.

The talented and experienced PULS team are ready to help and support you. Your application needs are our main focus. Our customer service, application support and sales teams are here to help you select the best PULS products for your individual requirements.

Matt Biskner

Matt Biskner, President, PULS, L.P.



Reasons to Choose PULS

Efficiency

- » **Highest** Energy Efficiency Ratings
- » Lower Heat Generated in the Enclosure Allows a Longer Lifetime for all Components in the System
- » Lowest Energy Consumption for the User

Broad Product Range

- » **DIN Rail & Machine Mount** 1-Phase & 3-Phase AC & DC Input Power Supplies
- » DC/DC Converters
- » DC-UPS Controllers with Individual Battery Monitoring & Charging
- » Redundancy Modules & Redundant Power Supplies

DC Power Specialists

- » DC Power Products Are Our **ONLY** Business
- » Market Education & Training Leader
- » Extensive Datasheets with Guaranteed Test Data You Can Rely On

Engineering Resources

- » PULS Employs More Than 100 Engineers & Technicians Exclusively Dedicated to the Design & Development of Industrial DC Power Products with Leading Technologies
- » Continually Developing **Next Generation** DC Power Solutions

Long Life of Product Families

- » PULS is Committed to Keeping Standard Items in Production for an Extended Length of Time
- » Eliminates Forced Changes in Designs Due to Obsolescence
- » **Availability** You Can Count On For Many Years

10 REASONS TO CHOOSE

Supply Chain & Manufacturing

- » **Significant Inventory** Levels Maintained in North America to Meet Your Requirements
- » From Development Through Manufacturing to Shipment: the Entire Process is Controlled by PULS
- » Two Ultra-Modern Production Facilities

Lowest Total Cost of Ownership

- » Compact Designs & Lower Heat Generation Allow for Smaller Enclosures
- » **Long Service Lifetimes** Reduce Replacement Costs
- » Less Energy is Consumed to Produce the Same Power

Quality & Lifetime

- » Longest Lifetime in the Industry
- » **Quality** is Assured With Every Product
- » Performance Values in Datasheets are Guaranteed
- » 100 % Product Burn-In

Engineering Application Support

- » **Application Engineering Support** to Help You Select the Right PULS Product for Your Application
- » Highly Trained Sales Reps Available for Local Support
- » A Friendly & Responsive Customer Service Team to Assist You With Availability & Delivery Inquiries



TECHNOLOGY LEADER



Advanced Design Techniques Utilized to Lead the Market in Product Innovations

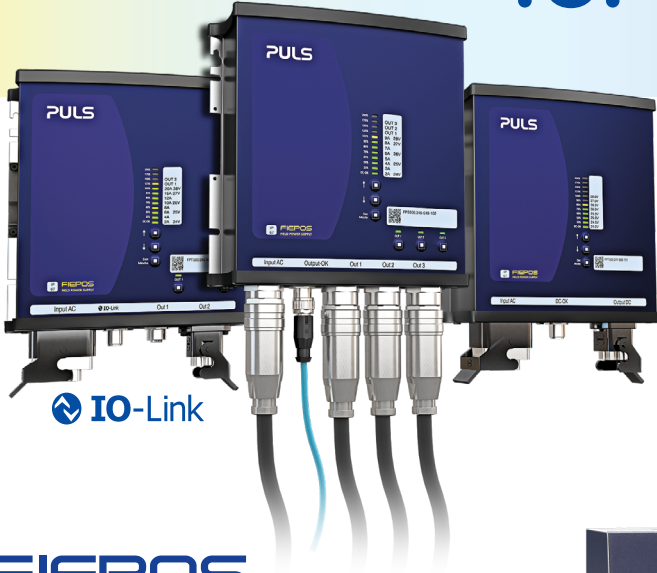


PULS Implements the Latest Components & Technologies for Maximum Performance



Highly Automated Manufacturing & Testing Lines Ensure Reliability

The Perfect Power Supply for Every Application



FIEPOS FIELD POWER SUPPLY

Field Mounted Power Supplies for Decentralized Applications

- » 360 W or 600 W | 1-Phase or 3-Phase
- » IP65 / 67 for Protection Against Moisture & Dust
- » IO-Link Interface or DC-OK Contact
- » Multiple Connector Configurations Available
- » Over 30 Different Models



MiniLine

Ultra Compact & Lightweight Design for Low Power Applications

- » 15 W to 100 W | 1-Phase or 3-Phase
- » Efficient & Robust
- » Long Service Lifetimes
- » NEC Class 2 Models Available



PISA

Electronic Circuit Protection Modules That Provide Current Monitoring on Multiple Circuits for Load & Voltage Protection



DIMENSION

Best-in-Class Power: Compact Designs Offering the Highest Performance & Reliability, Long Service Lifetimes & Efficiencies up to 95.6 %. The Variety of Models, Features & International Approvals are Ideal for a Wide Range of Industrial Automation Applications.

Power Reserves of 20 % or 50 % | Active PFC | Wide Temperature Range



PIANO

Minimize Size. Maximum Effect.

Basic Functionality With No Compromise in Quality & Reliability
36 W - 480 W | 1-Phase | 22.5-59 mm Width Range

240 W & 480 W DIN Rail Power Supplies with EtherCAT



CP10.241-ETC
24 V / 10 A / 240 W

Application Data in Real-Time

Smart power supplies with EtherCAT can immediately provide alerts or error messages in case of critical power supply scenarios, such as phase failures or transients on the AC side. This is especially relevant for systems affected by bad AC grid conditions. In addition, the DC side can be monitored throughout operation – providing real-time alerts, for example, on power dips or current overloads. This allows a timely reaction by reducing power demands or even entering a safe system status.

Achieve Higher Energy Efficiency

Measurement data from AC mains and DC output enables you to monitor and optimize energy consumption. The data provided allows you to reduce operating costs.

Enable Predictive Maintenance

Accessing device and system health data allows you to implement predictive maintenance strategies. This data can help increase system availability and reduce maintenance and operating costs. This means the power supply has the potential – in parallel with its function as a converter – to also act as a sensor to increase uptime and overall system efficiency.

Enhance Productivity

With real-time data at your fingertips, you can fine-tune machine tool parameters for optimal performance. This leads to increased system throughput, improved product quality and reduced waste, due to consistent performance and minimal disruptions.



PULS Blog:
<https://bit.ly/PULS-blog-iol-ethercat>

Features:

- » **Real-time capabilities and high-speed transmission** of EtherCAT is ideal for condition monitoring, logging, maintenance and remote access
- » Input: 1-Phase | AC 100-240 V, DC 110-300 V
- » Output: 24 V, 10 A or 20 A; 48 V, 10 A
- » **Only 48 mm wide!** (48 x 124 x 127 mm)
- » Efficiency ranges from **94.8 % to 96.2 %** (depending on model)
- » 20 % output power reserves
- » 2 RJ45 EtherCAT ports with link/activity LEDs
- » Easy fuse breaking – 5X nominal current for 5 ms, which helps to trip fuses on faulty output branches
- » Safe Hiccup^{PLUS} overload mode
- » Full power between -25° C and +60° C
- » Current sharing feature for parallel use



CP20.241-ETC
24 V / 20 A / 480 W



CP20.481-ETC
48 V / 10 A / 480 W

ETHERCAT

480 W & 960 W DIN Rail Power Supplies with IO-Link

The **CP20.242-IOL** and **QT40.241-IOL** are energy-efficient IP20 power supplies equipped with **IO-Link communication**. These power supplies are designed to optimize system performance and provide valuable insights into the operational state of both the power supply and incoming mains power. The added data insight capabilities provide greater system availability, while optimizing maintenance procedures and operating costs.

Smart & Independent

IO-Link is a commonly used industrial communications protocol that can be integrated into many fieldbus networks using IO-Link masters acting as gateways. The **CP20.242-IOL** and **QT40.241-IOL** also come with advanced features such as PowerBoost: power reserves of 20 %, which may be used continuously at temperatures up to +45° C. Additionally, they can deliver 5X the nominal output current for 5 ms, which helps to trip fuses on faulty output branches.

Features

CP20.242-IOL

- » **IO-Link**
- » **Only 48 mm wide!** / Weight 835 g
- » 20 % Output Power Reserves (PowerBoost: Continuous up to +45° C)
- » Easy Fuse Breaking – 5X nominal output current for 5 ms
- » Safe Hiccup^{PLUS} Overload Mode
- » Full power between -25° C & +60° C
- » Current sharing feature for parallel use

QT40.241-IOL

- » **IO-Link**
- » **Only 110 mm wide!** / Weight 1.5 kg
- » Three input fuses included
- » 50 % BonusPower: 1440 W for up to 5 s
- » 100 A peak current for 10 ms for fuse tripping
- » Active Power Factor Correction (PFC)
- » Negligibly low input inrush current surge
- » Full power between -25° C & +55° C
- » Current sharing feature for parallel use
- » Remote control of output voltage & shutdown



CP20.242-IOL

**24 V / 20 A /
480 W / 1-Phase**



QT40.241-IOL

**24 V / 40 A /
960 W / 3-Phase**

SPECIFICATIONS

Input Voltage AC:
100-240 V Wide Range Input

Input Voltage DC:
110 V - 300 V

DC Output: 24 - 28 Vdc
Output Current: 20 - 17.1 A

Dimensions (W x H x D):
48 mm x 124 mm x 127 mm

Efficiency up to 95.5 %

Operating Temp. Range:
-25° C to 70° C

Power Losses, typ.: 23 W

SPECIFICATIONS

Input Voltage AC:
380-480 V Wide Range Input

DC Output: 24 - 28 Vdc

Output Current:
33.7 A at 28.5 V, 40 A at 24 V

Dimensions (W x H x D):
110 mm x 124 mm x 143 mm

**95.3 % full load & excellent
partial load efficiencies**

Operating Temp. Range:
-25° C to 70° C

Power Losses, typ.: 47.3 W

**Multi-
Device
Access From
the System
Controller**

**Increase Overall
Efficiency**



Reduce energy costs &
speed up fault analysis &
troubleshooting

**Optimize
Your System**



Use real application
data to improve the
utilization of your system

**Maximize
Uptime**



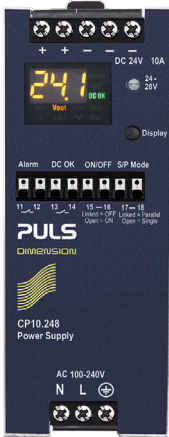
Implement preventative
maintenance & fix errors
before they occur



IO-LINK

Integrated Condition Display

NEW



The **CP10.248** (24 V, 10 A, 240 W) and **CP20.248** (24 V, 20 A, 480 W) are DIN rail-mountable 1-phase input power supplies, which provide a floating, stabilized and galvanically isolated SELV/PELV output voltage.

These devices also have an integrated condition display which shows real-time and recorded data informing about the condition of the power supply and the power line. A DC-OK signal, an alarm signal and remote ON/OFF make the unit suitable for many applications, where preventive function monitoring and remote control can help to avoid costly downtimes.

The devices also offer PowerBoost: Power reserves of 20 %, which may even be used continuously at temperatures up to +45° C. Additionally it can deliver 5X the nominal output current for 5 ms, which helps to trip fuses on faulty output branches.

These devices are equipped with a “Single Use / Parallel Use” feature, which enables a load sharing between power supplies when they are connected in parallel.



Local Integrated HMI

Many devices from PULS are available with an integrated HMI, ranging from simple LED bars indicating voltages, current settings of e-fuses and output loads to the unique built-in Power Supply Condition Display in the **CP10.248** and **CP20.248**. This makes the direct monitoring and analyzing of any application possible.



CP10.248
24 V / 10 A / 240 W

Simple Signaling Relay Ports

Data from signal ports is directly available in PLCs via digital I/O ports or can be used to directly drive operator signal lamps. Typical signals are “DC-OK” and “AC Fail” to provide basic and fast indication of the device status. Simple remote control functions, like ON/OFF control, are also available.



CP20.248
24 V / 20 A / 480 W

Features:

- » AC 100-240 V wide-range input
- » Display for condition monitoring and analysis of power errors
- » **Width of only 48 mm!**
- » Efficiency between 94.9 % – 95.6 %
- » Excellent partial load efficiency
- » 20 % output power reserves
- » Easy fuse breaking: 5X nominal current for 5 ms
- » Safe Hiccup^{PLUS} overload mode
- » Full power between -25° C and +60° C
- » DC-OK relay contact
- » ALARM relay contact
- » Remote ON/OFF functionality
- » Current sharing feature for parallel use

Electronic Circuit Protection

PISA-B: 8-Channel, 24 V Electronic Circuit Breakers For Load & Voltage Protection

Catalog Number	Input Voltage	Output Voltage	Max Output Current	Features
PISA-B-812-B1	24 V	24 V	40 A	8 output channels: 2X 1-12 A, 6X 1-10 A; common alarm signal
PISA-B-8CL2-B1			30 A	8 output channels: 8x NEC Class 2; 3.75 A per channel; common alarm signal
PISA-B-812-B4			40 A	8 output channels: 2X 1-12 A, 6X 1-10 A; digital coded alarm signal
PISA-B-8CL2-B4			30 A	8 output channels: 8X NEC Class 2; 3.75 A per channel; digital coded alarm signal

Features:

- » 8 Isolated, Independent Channels
- » Space Saving: **Only 52 mm Wide!** (6.5 mm per Channel)
- » Positive and Negative Terminals
- » 2 Channels for High Capacitive Loads (up to 12 A)
- » Reliable Channel Tripping With a Fail-Safe Switch
- » Tool-Free Installation via Push-In Terminals
- » Individual Channel Settings
- » Selectable Fast/Slow Tripping
- » Remote or Local Reset
- » Adjustable Output Current for Each Channel (Except NEC Class 2 models)
- » Wide Operating Temperature Range (-25° C to 70° C)



PISA-B



Watch the
PISA-B Video

PISA-B



Features:

- 4 Output Channels
- 45 mm Width
- Automatic Tripping of all Channels During Fault Conditions
- Visible Channel Indication During Fault Conditions
- Remote or Local Reset
- ON/OFF Feature for the Entire Unit
- Input Voltage Protection

PISA11 4-Channel

All PISA11 devices provide one input and four current-controlled output channels. These compact electronic circuit breakers ensure a sufficient supply of voltage for critical loads, even in the event of an fault. PISA11 also protects small cable sizes against overload.

PISA11 is also available in an NEC Class 2 version. With these models, you are able to install up to 4 NEC Class 2 circuits.

Catalog Number	Input Voltage (VDC)	Output Voltage (VDC)	Total Output Current	Output Current Per Channel				Features
				Ch 1	Ch 2	Ch 3	Ch 4	
PISA11.401	24 V	24 V	4 A	1 A	1 A	1 A	1 A	NEC Class 2
PISA11.402			8 A	2 A	2 A	2 A	2 A	NEC Class 2
PISA11.403			12 A	3 A	3 A	3 A	3 A	
PISA11.404			16 A	4 A	4 A	4 A	4 A	
PISA11.406			20 A	6 A	6 A	6 A	6 A	
PISA11.410				10 A	10 A	10 A	10 A	
PISA11.203206			18 A	3 A	3 A	6 A	6 A	
PISA11.206212			20 A	6 A	6 A	12 A	12 A	
PISA11.CLASS2			14.8 A	3.7 A	3.7 A	3.7 A	3.7 A	NEC Class 2

PISA11



Field Mounted Power Supplies

**ON MACHINE
ON DEMAND
SAVE MONEY**

FIEPOS Basic Series with a Single Output STRAIGHT FROM THE CABINET TO THE FIELD

With the **FIEPOS Basic Series**, PULS is relocating the power supply from the cabinet directly into the field to offer an all-in-one power supply system for decentralized systems design.



Flexibility

The compact housing with a high degree of IP protection (IP65 & IP67) and various connection options facilitates flexible positioning directly on the machine.

Cost Savings

FIEPOS makes it possible to use shorter cables and smaller wire gauges. This not only saves on the costs of copper, but also on the installation work for the cabling.

Ease of Use

The output voltage and the current-limited outputs (eFused Series) can be monitored and set directly via the LED interface and the push buttons on the front of the device or remotely via IO-Link.

Environmentally-Friendly

The high degree of efficiency of >95 % keeps the device cool. This means there is no need for any harmful potting compound and extends the lifetime of the product.



**Download
the FIEPOS
Brochure**



**Watch the
FIEPOS
Video**

FIEPOS eFused Series with up to Four Outputs DECENTRALIZED POWER SUPPLY WITH CURRENT-LIMITED OUTPUTS

With the **FIEPOS eFused Series**, it couldn't be easier to establish selective current distribution, protection and monitoring directly in the field. This provides a decentralized alternative to power supplies protected by either an external, electronic four-channel protection module, four circuit breakers or four external fuses.

The selective current distribution makes the eFused versions ideal for simultaneously supplying electro-mechanical loads (e.g., motors) and sensitive devices, such as PLCs or sensors using a decentralized, fused power supply unit. In addition, the selective shut-down of faulty outputs ensures a high level of operational reliability. eFused devices continue to gain popularity due to the clear benefits they offer over other solutions on the market.

Space Savings

The integrated, current-limited outputs result in no additional protection modules being required. The high degree of protection (IP65 & IP67) facilitates decentralized use directly on the machine.

Excellent System Availability

The selective protection means only faulty outputs are switched off, which ensures system availability.

Ease of Operation

Tasks such as setting tripping currents, resetting faulty circuits and monitoring can all be completed via IO-Link or directly on the front of the device.

Straightforward Administration & Logistics

Instead of several different components, an all-in-one solution provides easier troubleshooting with local diagnostics, fewer part numbers to manage and increased system reliability.

FLEXIBLE POWER



FIEPOS

FIELD POWER SUPPLY

Catalog Number	Input Voltage (VAC)	Output Voltage (VDC)	Output Power	Outputs	Input Connector	Status M12-A 5pin	Output 1 Connector	Output 2 Connector	Output 3 Connector	Output 4 Connector	Notes		
Basic													
FPS300.241-002-101	100-240	24-28	360 W	1	HAN Q4/2	DC-OK	HAN Q4/o	-	-	-			
FPT300.242-002-101	380-480	24						-	-	-			
FPT300.242-008-102		QuickON					-	-	-	Mounting Bracket Included			
FPT500.241-002-101		24-28	600 W				HAN Q4/o	-	-	-			
FPT500.241-006-104							1m AS-i Cable	-	-	-			
FPT500.241-010-108							HAN Q2/o	-	-	-			
eFused													
FPH500.245-024-103	200-240	24-28	600 W	3	7/8" 3pin	IO-Link	M12-L	M12-L	M12-L	-	Highline Input Voltage		
FPH500.245-047-104				4		DC-OK	7/8" 4pin	7/8" 4pin	-	-			
FPS300.245-016-101	100-240		360 W	2	M12-S	IO-Link	7/8" 5pin	-	-	-	2x U _a & U _s		
FPS300.245-034-105				4			7/8" 3pin	IO-Link	M12-L 5pin	M12-L 5pin		-	-
FPS300.245-047-103						DC-OK			7/8" 4pin	7/8" 4pin		-	-
FPS300.245-047-111				3	7/8" 3pin		IO-Link	7/8" 4pin				7/8" 4pin	-
FPS300.245-049-102						4			7/8" 5pin	7/8" 5pin	-		-
FPS300.245-049-112				IO-Link	7/8" 5pin		7/8" 5pin	-			-		
FPS300.245-055-109						300 W		3	M12-S	IO-Link	M12-L	M12-L	M12-L
FPS300.246-036-104				7/8" 3pin	DC-OK		7/8" 4pin		7/8" 4pin		7/8" 4pin	-	
FPS300.246-049-102							IO-Link		7/8" 5pin		7/8" 5pin	7/8" 5pin	-
FPS300.246-049-106			2	M12-S	DC-OK				M12-A 5pin	M12-L 5pin	-	-	
FPS300.246-073-156							360 W	4	HAN Q5/o	IO-Link	M12-A	M12-A	M12-A
FPS300.247-060-101			4	M12-S 4pin	IO-Link						7/8" 4pin	7/8" 4pin	-
FPT300.246-042-101						2	7/8" d	DC-OK	7/8" 5pin	7/8" 5pin	-	-	
FPT500.245-018-103			4	7/8" 4pin	IO-Link						M12-L 5pin	M12-L 5pin	-
FPT500.245-034-105						4	M12-S	IO-Link	M12-L	M12-L			-
FPT500.245-034-106			2	7/8" 4pin	DC-OK						M12-L 5pin	M12-L 5pin	-
FPT500.245-053-113						4	7/8" 4pin	IO-Link	M12-L 5pin	M12-L 5pin			-
FPT500.245-055-158			2	7/8" d	DC-OK						M12-L 5pin	M12-L 5pin	-
FPT500.245-062-117	3					7/8" d	IO-Link	M12-A 5pin	7/8" 5pin	7/8" 5pin			-
FPT500.245-070-161			4	7/8" 4pin	IO-Link						M12-L	M12-L	-
FPT500.245-070-162	2					7/8" 4pin	DC-OK	M12-L 5pin	M12-L 5pin	-			-
FPT500.247-064-102			3	7/8" d	IO-Link					M12-A 5pin	7/8" 5pin	7/8" 5pin	-
Accessories													
ZM.FPMBA-10	Qty=1 L-Shaped Metal Mounting Bracket with Input Power Lockout / Tagout Capability												
ZM.FPDRA-10	Qty=1 DIN Rail Mounting Bracket												

Power Supplies



ML15.051



ML60.241



PIM36.241



CP5.241-S1



CP10.241

100-240 VAC

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Power Reserves	Efficiency	Operating Temperature Range	DC-OK Contact	Features	
5-5.5 V	3 A	ML15.051	15 W	22.5	-	77.2 %	-10° C to +70° C	-	NEC Class 2	
	5 A	ML30.101	25 W	45.0	-	80.0 %		-		
12-15 V	1.3 A	ML15.121	15 W	22.5	-	82.5 %		-		
10-12 V	3.0 A	ML30.102	30 W	45.0	-	84.0 %		-		
12-15 V	4.5 A	ML60.121	54 W		45.0	-	87.2 %	-	NEC Class 2, -40° C Specified	
		ML60.122		-		87.6 %	-40° C to +70° C	-		
	5 A	PIM60.121	60 W	36.0	-	90.7 %	-10° C to +70° C	-	Push-In Terminals	
		PIM60.125			-			-		
	7.5 A	ML100.102	90 W	72.5	-	88.5 %	-25° C to +70° C	Yes	Shut Down Input	
	10 A	CP5.121	120 W	32.0	20 %	94.0 %				
	15 A	QS10.121	180 W	60.0	50 %	91.8 %				
	16 A	CP10.121	192 W	39.0	20 %	94.3 %				
	30 A	CPS20.121	405 W	65.0	20 %	92.6 %				
±12 or ±15 V	2.5 A	ML30.106	36 W	45.0	-	86.0 %	-10° C to +70° C	-	NEC Class 2, Screw Terminals	
24 - 28 V	3.8 A	PIM90.245-L1	90 W	36.0	-	93.8 %	-10° C to +70° C	-		
24 V		QS5.DNET	91.2 W	40.0	-	92.0 %	-25° C to +70° C	Yes	NEC Class 2	
24-28 V	0.63 A	ML15.241	15 W	22.5	-	85.1 %	-10° C to +70° C	-		NEC Class 2, Push-In Terminals
	1.3 A	ML30.241	30 W		-	89.4 %		-		
	1.5 A	PIM36.241	36 W		-	90.6 %		-		
	2.5 A	ML60.241	60 W	45.0	-	89.7 %	-40° C to +70° C	-	NEC Class 2	
		ML60.242			-	90.4 %		-	NEC Class 2, -40° C Specified	
		PIM60.241		36.0	-	91.8 %	-10° C to +70° C	-	NEC Class 2, Push-In Terminals	
		PIM60.245			-			-	NEC Class 2, Screw Terminals	
	3.3 A	CS3.241	80W	32.0	-	89.8 %	-25° C to +70° C	-	NEC Class 2	
	3.4 A	QS3.241			50 %	90.0 %		-		
	3.8 A	PIM90.241	90 W	36.0	-	93.8 %	-10° C to +70° C	-	Push-In Terminals	
		PIM90.245			-			-	Screw Terminals	
	4.2 A	ML100.100	100 W	73.0	-	90.0 %		-		
		ML100.109			-			-	-	Conformal Coating
	5 A	CP5.241	120 W	32.0	20 %	94.3 %	-25° C to +70° C	Yes		
		CP5.241-C1								Conformal Coating
		CP5.241-S1								Spring Clamp Terminals
		CP5.241-S2		39.0	-	92.3 %	-10° C to +70° C		Push-In Terminals	
		CP5.242							Extended DC Input	
		PIC120.241D		40.0	50 %	92.7 %	-25° C to +70° C			
		QS5.241								
		QS5.241-A1							Conformal Coating / ATEX / IECEx	

Consult the product datasheets on the website for detailed information on the Power Reserves specifications



Download the
PIANO Series
Brochure



CP20.241



CP20.241-ETC



PIC480.241D



QS40.241

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Power Reserves	Efficiency	Operating Temperature Range	DC-OK Contact	Features
24-28V	10 A	CP10.241	240 W	39.0	20 %	95.2 %	-25° C to +70° C	Yes	
		CP10.241-C1							Conformal Coating
		CP10.241-ETC		48.0		94.8 %			EtherCAT
		CP10.241-M1		39.0		95.2 %			Approved for Medical Use
		CP10.241-S1			Spring Clamp Terminals				
		CP10.241-S2			Push-In Terminals				
		CP10.242			Extended DC Input				
		CP10.248		48.0	94.9 %	Integrated Condition Display			
		PIC240.241D		49.0	-	95.2 %			
		QS10.241		60.0	50 %	93.5 %			
		QS10.241-A1							Conformal Coating / ATEX / IECEx
		QS10.241-C1							Conformal Coating
	20 A	CP20.241	480 W	48.0	20 %	95.6 %			Conformal Coating
		CP20.241-C1				95.5 %			EtherCAT
		CP20.241-ETC				95.6 %			Spring Clamp Terminals
		CP20.241-S1							Push-In Terminals
		CP20.241-S2			Shut Down Input				
		CP20.241-V1			Extended DC Input				
		CP20.242				IO-Link			
		CP20.242-IOL			95.5 %	Integrated Condition Display			
		CP20.248		95.6 %					
		PIC480.241D		59.0	-	95.0 %			
		QS20.241		82.0	50 %	93.9 %			
		QS20.241-C1							Conformal Coating
QS20.241-A1		Conformal Coating / ATEX / IECEx							
	40 A	QS40.241	960 W	125.0		94.6 %	Shut Down Input		
28-32 V	8 A	QS10.301	240 W	60.0		93.5 %			
36-42 V	6.7 A	CP10.361		39.0	20 %	95.4 %			
	13.3 A	CPS20.361	480 W	65.0	50 %	94.3 %			
		QS20.361	82.0	94.0 %					
		26.7 A	QS40.361	960 W	125.0		94.6 %	Shut Down Input	
48-56 V	1.05 A	ML50.105	50 W	45.0	-	90.0 %	-10° C to +70° C	-	NEC Class 2
	2.1 A	ML100.105	100 W	72.5	-	91.0 %		-	
	2.5 A	CP5.481	120 W	32.0	20 %	93.5 %	-25° C to +70° C	Yes	
	5 A	QS10.481	240 W	60.0	50 %	92.0 %			Extended DC Input
		QS10.481-D1							
	5.4 A	CP10.481	260 W	39.0	20 %	95.5 %			
		CP20.481	480 W	48.0		96.0 %			EtherCAT
	CP20.481-ETC			96.2 %					
	10 A	PIC480.481D		59.0	-	95.7 %	-25° C to +60° C		
		QS20.481		82.0	50 %	94.3 %	-25° C to +70° C		
20 A	QS40.481	960 W	125.0	95.0 %		Shut Down Input			

Consult the product datasheets on the website for detailed information on the Power Reserves specifications

Power Supplies



CT5.121



CT10.241



QT20.241



QT40.241

380-480 VAC

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Power Reserves	Efficiency	Operating Temperature Range	DC-OK Contact	Features	
12-15 V	8 A	CT5.121	96 W	40.0	-	85.8 %	-25° C to +70° C	-		
24-28 V	3.75 A	ML90.200	90 W	72.5	-	89.5 %	-10° C to +70° C	-	NEC Class 2	
	4.2 A	ML100.200	100 W		-			-		
	5 A	CT5.241	120 W	40.0	20 %	90.4 %	-25° C to +70° C	-		
	10 A	CT10.241	240 W	62.0		92.8 %		-		
		CT10.241-C1						-	Conformal Coating	
	20 A	QT20.241	480 W	65.0	95.0 %	Yes				
		QT20.241-C1						Conformal Coating		
	40 A	QT40.241	960 W	110.0	50 %			95.3 %	-	Shut Down Input
		QT40.241-IOL				IO-Link				
		QT40.242				Enhanced Lifetime Shut Down Input				
	36-42 V	13.3 A	QT20.361	480 W		65.0		94.8 %	Yes	
		26.7 A	QT40.361	960 W		110.0				95.3 %
48-56 V	5 A	CT10.481	240 W	62.0	20 %	92.8 %	-			
48-55 V	10 A	QT20.481	480 W	65.0	50 %	95.4 %	Yes			
48-54 V	20 A	QT40.481	960 W	110.0				Shut Down Input		

NOTE: CT5.121, ML90.200, ML100.200 and CT5.241 utilize 2 legs of a 3-Phase System

For Motor & Actuator Applications

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Power Reserves	Efficiency	Operating Temperature Range	DC-OK Contact	Features
24 V	40.0 A	XT40.242	960 W	96.0	25 %	95.5 %	-25° C to +70° C	-	480 VAC Input Only
36 V	26.6 A	XT40.362						-	
48 V	20.0 A	XT40.482						-	
72 V	13.3 A	XT40.722						-	
24 V	40.0 A	XT40.241	960 W	96.0	25 %	95.5 %	-25° C to +70° C	-	400 VAC Input Only
36 V	26.6 A	XT40.361						-	
48 V	20.0 A	XT40.481						-	
72 V	13.3 A	XT40.721						-	

Consult the product datasheets on the website for detailed information on the Power Reserves specifications

Power Supplies



SLA4.100



CP5.241-C1



QS10.DNET



QT20.241-C1

AS-Interface®

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Efficiency	Input Voltage	Features
30.5 V	2.8 A	SLA3.100	85.4 W	49.0	90.5 %	100-120 / 200-240 VAC	NEC Class 2
	4 A	SLA4.100	122 W	73.0	88.0 %		Ground Fault Detector
		SLAD4.100		40.0	90.5 %	18-32 VDC	DC/DC Converter
	8 A	SLA8.100	244 W	91.0	92.0 %	100-120 / 200-240 VAC	

AS-Interface®

DeviceNet®

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Efficiency	Input Voltage	Features
24 V	3.8 A	QS5.DNET	91.2 W	40.0	92.0 %	100-240 VAC	NEC Class 2
	8 A	QS10.DNET	192 W	60.0	93.4 %		

DeviceNet®

Conformal Coated

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Efficiency	Input Voltage	Features	
24-28 V	2.1 A	ML50.109	50 W	45.0	89.0 %	100-240 VAC	NEC Class 2	
	4.2 A	ML100.109	100 W	72.5	90.0 %	100-120 / 200-240 VAC		
	5.0 A	CP5.241-C1	120 W	32.0	94.3 %	100-240 VAC		
		QS5.241-A1		40.0	92.7 %			
	10 A	CP10.241-C1	240 W	39.0	95.2 %		Integrated Redundancy	
		CP10.241-R2-C1			94.7 %			
		QS10.241-C1		60.0	93.5 %			
		QS10.241-A1						
		CT10.241-C1		62.0	92.8 %	380-480 VAC		
	20 A	CP20.241-C1	480 W	48.0	95.6 %	100-240 VAC	Integrated Redundancy	
		CP20.241-R2-C1			95.2 %			
		QS20.241-A1		82.0	93.9 %			
		QS20.241-C1						
		QT20.241-C1		65.0	95.0 %	380-480 VAC		
	40 A	QS40.241-C2	960 W	125.0	94.6 %	100-240 VAC	Partial Conformal Coating	

Consult the product datasheets on the website for detailed information on the Power Reserves specifications

CONFORMAL COATED



Redundancy

Power Supplies With Integrated Redundancy



Watch the **Integrated Redundancy Video**

CP Series (-R models) offer a unique feature: power supplies with integrated redundancy based on efficient MOSFET technology. This means there is **no need for additional redundancy modules** for 1+1 and N+1 redundant systems, reducing system complexity and costs, which results in shorter installation times. These units are available in both 240 w and 480 w.

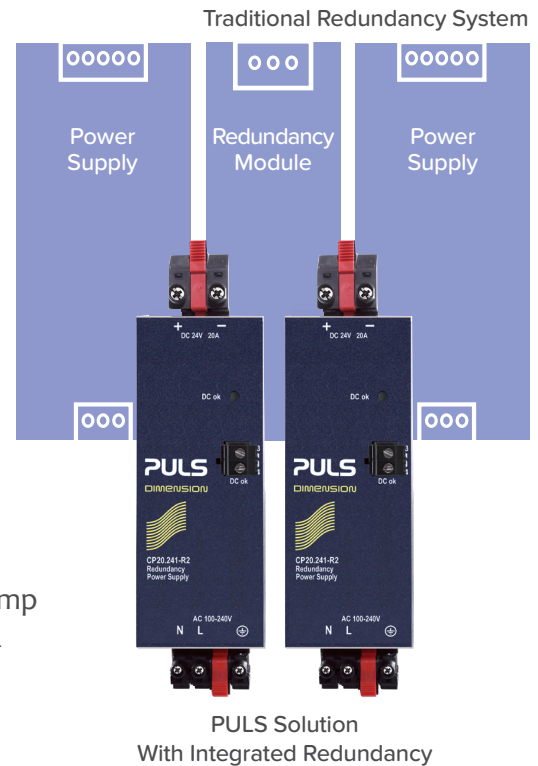
Space
savings of
more than
45%

Space Savings

PULS integrated the decoupling feature into the existing CP housings, ensuring that the size of the units are identical to those of the standard CP10 (39 mm) and CP20 (48 mm) models, resulting in a space savings of more than 45 %.

On-line Replacement

These models are available with removable plug connectors or spring clamp terminals. The models with removable plug connectors (CP10.241-R2 & CP20.241-R2 & -C1 conformal coated versions) allow the replacement of devices during live operation. If there is no need for this feature or if heavy shock and vibration occur regularly in the application, the spring clamp terminals on the CP10.241-R1 & CP20.241-R1 are the perfect choice.



CP10.241-R1



CP20.241-R1



CP10.241-R2



CP20.241-R2

Power Supplies With Integrated Redundancy

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Input Voltage	Features
24-28 V	10 A	CP10.241-R1	240 W	39.0	100-240 VAC	Spring Clamp Terminals
		CP10.241-R2				Removable Terminals
		CP10.241-R2-C1				Removable Terminals Conformal Coating
		CP10.242-R2				Extended DC Input Range
	20 A	CP20.241-R1	480 W	48.0		Spring Clamp Terminals
		CP20.241-R2				Removable Terminals
		CP20.241-R2-C1				Removable Terminals Conformal Coating
		CP20.245-R2				Marine Approvals EMC Class B

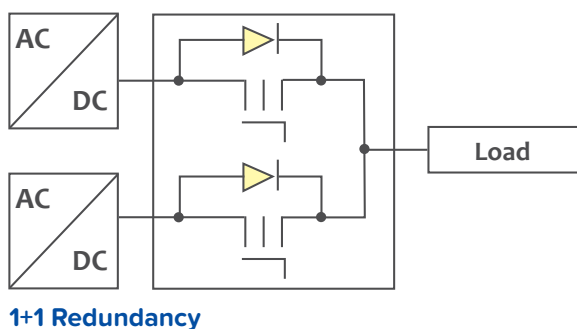
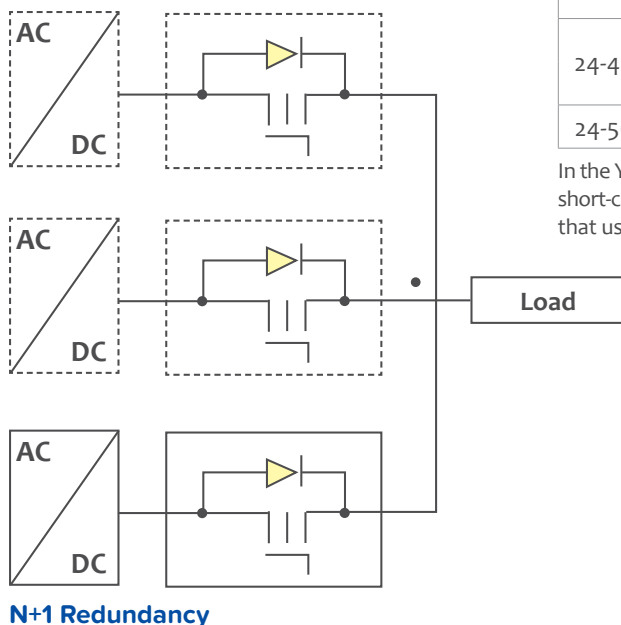


Redundancy Modules

Highest System Reliability

In a redundant power supply system, two or more power supplies are wired in parallel to increase the reliability and availability of the DC voltage. The additional power supply provides backup in case one power supply fails.

The power supplies are decoupled by one or more redundancy modules. The redundancy modules isolate a fault in one power supply and protects the DC voltage for critical applications.



Redundancy Modules

Output Voltage	Output Current	Catalog Number	Width (mm)	Input Voltage	Power Supply Size	Redundancy Method
12-28 V	20 A	PIRD20.241	39.0	12-28 V	2 x 10 A	Diode
		YR20.242	32.0			MOSFET
	40 A	YR40.241	36.0		2 x 20 A	
		YR40.245	46.0		1 x 40 A	
12-48 V	10 A	MLY10.241	45.0	12-48 V	2 x 5 A	Diode
	20 A	MLY02.100			2 x 10 A	
12-28 V	40 A	YR40.242	36.0	24-28 V	2 x 20 A	MOSFET
	80 A	YR80.241	46.0		2 x 40 A	
24-48 V	20 A	YR20.246	32.0	24-48 V	2 x 10 A	Diode
		YRM2.DIODE				
24-56 V	40 A	YR40.482	46.0	24-56 V	2 x 20 A	MOSFET

In the YR Series, the .241 models are compatible with power supplies with continuous fold-forward short-circuit current or hiccup mode, whereas the .242 models are compatible with power supplies that use hiccup mode only.



MLY10.241



PIRD20.241



YRM2.DIODE



YR20.246



YR40.241



YR80.241

DC/DC Converters

Output Voltage	Output Current	Catalog Number	Output Power	Width (mm)	Input Voltage	Features
5-5.5 V	10 A	CD5.051	50 W	32.0	18-32.4 VDC	NEC Class 2
12-15 V	8 A	CD5.121	96 W		18-32.4 VDC	
24 V	3.8 A	CD5.241-L1	92 W		14.4-32.4 VDC	
23-28 V	4 A	CD5.243	96 W		10.8-16.2 VDC	
	5 A	CD5.241	120 W		18-32.4 VDC	
		CD5.241-S1			18-32.4 VDC	
		CD5.242			36-60 VDC	
	10 A	CD10.241	240 W	42.0	18-35 VDC	
24-28 V	20 A	CPS20.241-D1	480 W	65.0	110-300 VDC	Extended DC Input
		QTD20.241			480-840 VDC	For Intermediate DC Bus
48-56 V	5 A	CD10.482	240 W	42.0	36-60 VDC	Extended DC Input
	10 A	CPS20.481-D1	480 W	65.0	110-300 VDC	

Many 1-phase power supplies will accept a 110-150 VDC input



CD5.241



CD10.241



CPS20.241-D1



QTD20.241

DC Backup



PULS Blog Article:

<https://www.pulspower.com/us/blog/dc-ups-modules-with-battery-or-capacitor/>

DC-UPS & Buffer Modules With Capacitor Storage

Output Voltage	Output Current	Catalog Number	Width (mm)	Storage Capacity	Storage Element
24 V	15 A	UC10.241	126.0	6 kW - Buffer Time: 9 s at 15 A	UltraCapacitor (EDLC)
		UC10.242	198.0	12 kW - Buffer Time: 18 s at 15 A	
	20 A	UF20.241	64.0	0.2 kW - Buffer Time: 310 ms at 20 A	Electrolytic Capacitor
	40 A	UF40.241		0.32 kW - Buffer Time: 250 ms at 40 A	
48 V	20 A	UF20.481		0.2 kW - Buffer Time: 150 ms at 20 A	

DC-UPS With Battery Storage

Output Voltage	Output Current	Catalog Number	Width (mm)	Battery Requirements	Note
24 V	10 A	UBC10.241	123.0	Integrated, 12 V, 5 Ah	Battery Included
		UBC10.241-N1			
		UB10.241	49.0	External, 12V , 3.9-40 Ah	Battery Not Included
		UB10.242		External, 12V, 17-130 Ah	
24 V / 12 V	10 A / 5 A	UB10.245		External, 12 V, 3.9-40 Ah	
24-26 V	20 A	UB20.241	46.0	External, (2) 12 V, 3.9-150 Ah	
24 V	40 A	UB40.241		External, (2) 12 , 12-200 Ah	

NOTE: All UPS controllers & buffer modules require a 24 VDC input from a power supply or other source



UBC10.241



UB10.241



UB20.241



UB40.241

DC Backup

Buffer Modules With Capacitor Storage

BRIDGE POWER FAILURE ENJOY PEACE OF MIND



PULS DC-UPS with integrated electro-chemical double layer capacitors (EDLC or Ultracaps) are fully maintenance-free and guarantee uninterrupted power from seconds to minutes. The **UF Series** buffer modules with electrolytic capacitors work similarly to a DC-UPS and can bridge power failures in the 24 VDC or 48 VDC bus for periods measured in milliseconds to seconds.

Unlike DC-UPS systems that utilize batteries, regular replacement of the capacitors is not necessary. In buffer mode, the output voltage is regulated and the change from normal to buffer mode occurs without interruptions. All modules are protected against overload and short-circuit and have a wide operating temperature range.

AVOID DOWNTIME AVOID DATA LOSS LIVE MAINTENANCE-FREE



The **UC Series** DC-UPS utilizes an Electrochemical Double Layer Capacitor (EDLC), commonly known as Ultra-capacitors or Supercapacitors, to store energy. They can bridge power failures or voltage fluctuations and supply voltage to the 24 VDC bus, which allows for a safe shut-down of the system. Expensive downtimes, long restart cycles and loss of data can be avoided.

BUFFER MODULES



UF40.241

Electrolytic Capacitor Buffer Module, typ. 250 ms at 40 A

Buffer Times

Buffer Current	0.5 A	1 A	3 A	5 A	7 A
UF20.481	6.4 s	3.2 s	1 s	660 ms	470 ms
UF20.241	12.7 s	6.5 s	2.2 s	1.3 s	950 ms
UF40.241	20 s	10.6 s	3.6 s	2.1 s	1.5 s
UC10.241	340 s	200 s	68 s	39 s	26 s
UC10.242	680 s	400 s	136 s	78 s	53 s

	10 A	15 A	20 A	30 A	40 A
UF20.481	300 ms	220 ms	150 ms	-	-
UF20.241	670 ms	450 ms	310 ms	-	-
UF40.241	1 s	730 ms	500 ms	350 ms	250 ms
UC10.241	16.5 s	9 s	-	-	-
UC10.242	33 s	18 s	-	-	-

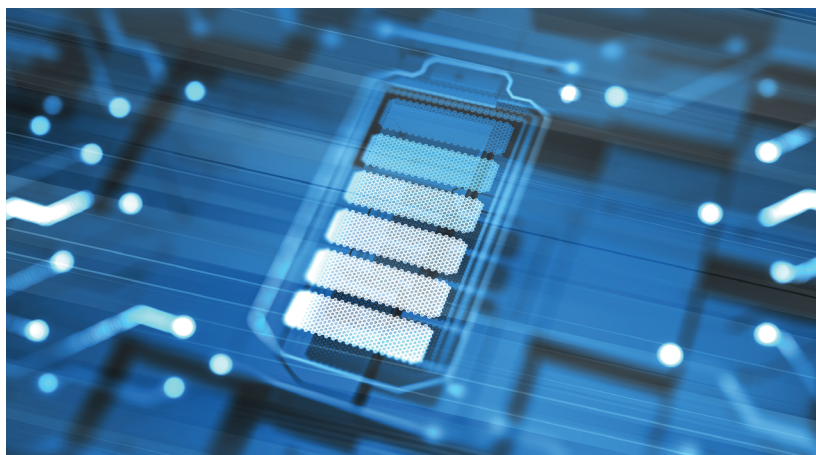


UC10.241

DC-UPS with Capacitor Storage, 24 V, 15 A



Watch the
**DC-UPS
Critical
Power
Case Study
Video**



DC Backup

DC-UPS With Battery Storage



Download the
DC Backup
Solutions
Brochure

BE PREPARED FOR THE NEXT POWER DISRUPTION



The installation of a DC-UPS system requires three essential elements: a power supply, a DC-UPS controller and a battery.

DC-UPS controllers are responsible for monitoring and charging the batteries, as well as controlling the seamless transition between normal and buffer mode. They bridge power failures or voltage fluctuations **from minutes to hours to days**. PULS **DC-UPS controllers** increase system reliability and prevent unplanned and expensive downtime, as well as a loss of data.



UB10.241, UB20.241 & UB40.241

DC-UPS Control Units, 24 V, 10 A to 40 A
for battery sizes from 3.9 Ah to 200 Ah

ADVANTAGES OF PULS DC-UPS CONTROLLERS

- » **1-Battery Concept:** Each Battery is Individually Charged & Monitored to Maximize Battery Life
- » Output De-coupled from the Input, Allowing Buffered & Unbuffered Branches
- » Fixed Output Voltage in Backup Mode for UB10 & UB20 models
- » 22.5 - 26 V Adjustable Output Voltage in Backup Mode for the UB20.241
- » Selectable Backup Time Limiter to Extend Battery Life (on select models)
- » 50 % Power Reserves for 5 Seconds
- » No Need for Matched Batteries



Watch the **DC-UPS Solutions Video**

Backup Times

Backup Current	0.5 A	1 A	3 A	5 A	7 A	10 A	15 A	20 A	40 A
UBC10.241	3 h 50 min	2 h	30 min	16 min	11 min	6 min	-	-	-
UB10 + 7 Ah Battery (12 V)	5 h 10 min	2 h 30 min	38 min	20 min	13 min	6 min	-	-	-
UB10 + 12 Ah Battery (12 V)	10 h 41 min	5 h 17 min	1 h 40 min	46 min	28 min	16 min	-	-	-
UB10 + 26 Ah Battery (12 V)	23 h 6 min	11 h 23 min	3 h 40 min	2 h 10 min	1 h 30 min	55 min	-	-	-
UB10.242 + 65 Ah Battery (12 V)	2 d 11 h	1 d 5 h	9 h 53 min	5 h 51 min	4 h	2 h 45 min	-	-	-
UB10.242 + 100 Ah Battery (12 V)	3 d 19 h	1 d 21 h	14 h 53 min	8 h 41 min	6 h	4 h 7 min	-	-	-
UB10.242 + 130 Ah Battery (12 V)	4 d 23 h	2 d 11 h	19 h 21 min	11 h 18 min	7 h 48 min	5 h 21 min	-	-	-
UB20 + 7 Ah Battery (2, 12 V)	9 h 26 min	5 h 16 min	1 h 30 min	46 min	30 min	19 min	10 min	6 min	-
UB20 + 12 Ah Battery (2, 12 V)	17 h 13 min	9 h 51 min	3 h 29 min	2 h 2 min	1 h 23 min	46 min	27 min	16 min	-
UB20 + 26 Ah Battery (2, 12 V)	1 d 13 h	21 h 34 min	7 h 32 min	4 h 26 min	3 h 7 min	2 h 10 min	1 h 17 min	55 min	-
UB20 + 65 Ah Battery (2, 12 V)	3 d 19 h	2 d 4 h	20 h 5 min	11 h 56 min	8 h 25 min	5 h 50 min	3 h 49 min	2 h 49 min	-
UB20 + 100 Ah Battery (2, 12 V)	6 d 3 h	3 d 11 h	1 d 6 h	18 h 30 min	13 h 10 min	9 h 11 min	6 h 3 min	4 h 31 min	-
UB20 + 140 Ah Battery (2, 12 V)	8 d 12 h	4 d 21 h	1 d 19 h	1 d 1 h	18 h 26 min	12 h 52 min	8 h 27 min	6 h 19 min	-
UB40 + 12 Ah Battery (2, 12 V)	24 h 4 min	11 h 20 min	3 h 55 min	2 h	1 h 17 min	47 min	27 min	18 min	7 min
UB40 + 26 Ah Battery (2, 12 V)	2 d 5 h	1 d 1 h 27 min	8 h 44 min	4 h 44 min	3 h 38 min	2 h 17 min	1 h 21 min	55 min	21 min
UB40 + 38 Ah Battery (2, 12 V)	3 d 9 h	1 d 11 h	12 h 14 min	7 h 24 min	5 h 17 min	3 h 28 min	2 h 8 min	1 h 31 min	36 min
UB40 + 65 Ah Battery (2, 12 V)	6 d 1 h	2 d 23 h	17 h 18 min	13 h 53 min	9 h 56 min	6 h 49 min	4 h 23 min	3 h 4 min	1 h 14 min
UB40 + 100 Ah Battery (2, 12 V)	9 d 3 h	4 d 12 h	1 d 2 h	20 h 50 min	14 h 56 min	10 h 7 min	6 h 33 min	4 h 48 min	1 h 59 min
UB40 + 200 Ah Battery (2, 12 V)	19 d 16 h	9 d 18 h	2 d 9 h 8 min	1 d 21 h	1 d 8 h 49 min	22 h 27 min	14 h 44 min	10 h 52 min	4 h 55 min

The UB10, UB20 and UB40 tables show approximate typical buffer times of new battery modules without the aging effect included.

PULS recommends adding 30-50 % battery capacity to account for battery wear and aging. Please review specific datasheets for additional buffer times.

DC Backup

Battery Modules & Accessories for DC-UPS

Battery modules use maintenance-free VRLA batteries (valve regulated lead-acid). Battery modules can be ordered with a battery (**UZX Series**) or without a battery (**UZO Series**). All battery modules from PULS support the 1-Battery Concept. The 24 V battery modules for use with the UB20 and UB40 battery modules from PULS Series are equipped with a center-tap, which are protected against overcurrent and with an integrated temperature sensor.

Users who opt for using their own batteries should use a high-quality VRLA, gel cell or glass mat battery. When using batteries for the UB20 and UB40 Series, it is recommended to use the appropriate sensor board with a PT1000 temperature sensor included, and a center-tap to take advantage of the PULS 1-Battery Concept.



UZX12.072
Battery Module
with Battery, 12 V

Catalog Number	Description	Dimensions (W x H x D)
UZX12.051	12 V, 5 Ah Replacement Battery for UBC10.241	90 x 106 x 70 mm
UZX12.071	12 V, 7 Ah Replacement Battery for UZX12.071, UZX12.072 & UZX24.071 a)	151 x 100 x 65 mm
UZX12.121	12 V, 12 Ah Replacement Battery for UZX24.121 a)	151 x 100 x 98 mm
UZX12.261	12 V, 26 Ah Replacement Battery for UZX12.261	175 x 166 x 125 mm
UZX12.071	12 V, 7 Ah Battery Module for UB10	155 x 124 x 112 mm
UZX12.072	12 V, 7 Ah Battery Module for UB10 (Class I Division 2 Groups A, B, C, D locations & for use in Group II Category 3 (Zone 2) environments)	158 x 132 x 98 mm
UZX12.261	12 V, 26 Ah Battery Module for UB10	214 x 179 x 153 mm
UZX24.071	24 V, 7 Ah Battery Module for UB20	137 x 186 x 124 mm
UZX24.121	24 V, 12 Ah Battery Module for UB20	203 x 186 x 124 mm
UZX24.122	24 V, 12 Ah Battery Module for UB40	203 x 186 x 125mm
UZX24.262	24 V, 26 Ah Battery Module for UB40 (2x 12 V batteries in series)	359 x 214 x 167 mm
UZX24.262-E1	Battery Module Extension for UZX24.262 for Paralleling a Second Battery Pack (Contains batteries, battery terminal covers & ring cable lugs) Batteries incl. (2x 12 V batteries in series).	359 x 214 x 128 mm
UZO12.07	Mounting Bracket for use with 7 Ah Battery	155 x 124 x 112 mm
UZO12.072	Mounting Bracket for use with 7 Ah Battery (Class I Division 2)	155 x 124 x 112 mm
UZO12.26	Mounting Bracket for use with 26 Ah Battery	214 x 179 x 153 mm
UZO24.071	Mounting Bracket for use with 7 Ah Battery Pair for UB20	137 x 186 x 124 mm
UZO24.121	Mounting Bracket for use with 12 Ah Battery Pair for UB20	203 x 186 x 124 mm
UZO24.122	Mounting Bracket for use with 12 Ah Battery for UB40	203 x 186 x 125 mm
UZO24.262	24 V, 26 Ah Battery Capacity (2x 12 V batteries in series). Batteries Not Included.	359 x 214 x 167 mm
UZO24.262-E1	Battery Module Extension for UZO24.262 for Paralleling a Second Battery Pack (Includes the Connection Board & Wiring Kit UZW24.100)	359 x 214 x 128 mm
UZZ24.100	Sensorboard with PT1000 Temperature Sensor & Center-Tap for use with UB20.241	23 x 110 x 15 mm
UZW24.100	Wiring Kit for UB40 for Batteries up to 26 Ah Not Supplied by PULS. Includes Connection Cables.	
UZW24.101	Connection Module for UB40 for Larger Batteries Not Supplied by PULS. Cables Not Included.	

a) Two required for UZX24 battery modules

Accessories

Mounting Brackets

Mounting brackets for panel mounting without the need for DIN rail. Other brackets are for sideways installation of the power supplies with or without DIN rail for control cabinets which do not have the required installation depth.



ZM1.WALL



ZM1.UBC10



ZM5.WALL



ZM11.SIDE



ZM13.SIDE

Catalog Number	Panel Mounting Brackets
ZM1.WALL	for light DIMENSION units
ZM2.WALL	for QS20, QS40, QT40, CPS20, UB20 units
ZM3.WALL	for ML60, PISA11 and MLY
ZM4.WALL	for CP10 units
ZM5.WALL	for CP20 units
ZM10.WALL	for CP5 units
ZM1.UBC10	for UBC10

Catalog Number	Side Mounting Brackets
ZM11.SIDE	for CD5, CP5, CS3, CS5, QS3, YR2, YRM2 units
ZM12.SIDE	for CP10, CT5, QS5, UB20 units
ZM13.SIDE	for CS10, CT10, QS10, CPS20 units
ZM14.SIDE	for QT20, QTD20, UF20 units
ZM15.SIDE	for QS20 units (except QS20.244)

See [Page 10](#) for FIEPOS Mounting Brackets

Water Energy Power



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