

Power supplies with communication interface

Experience the power of application data



EtherCAT

IO-Link

Integrated HMI

EFFICIENT. EASY. CONNECTED.

PULS supports its customers with a growing line-up of smart power supplies. The devices provide direct access to a large range of highly informative data-sets that help to monitor, analyse and optimise the complete power supply concept of any machinery – from the quality of the power grid, to the AC input and the DC output as well as the DC distribution.



Optimise your system

Use real application data to improve the utilisation of your system.



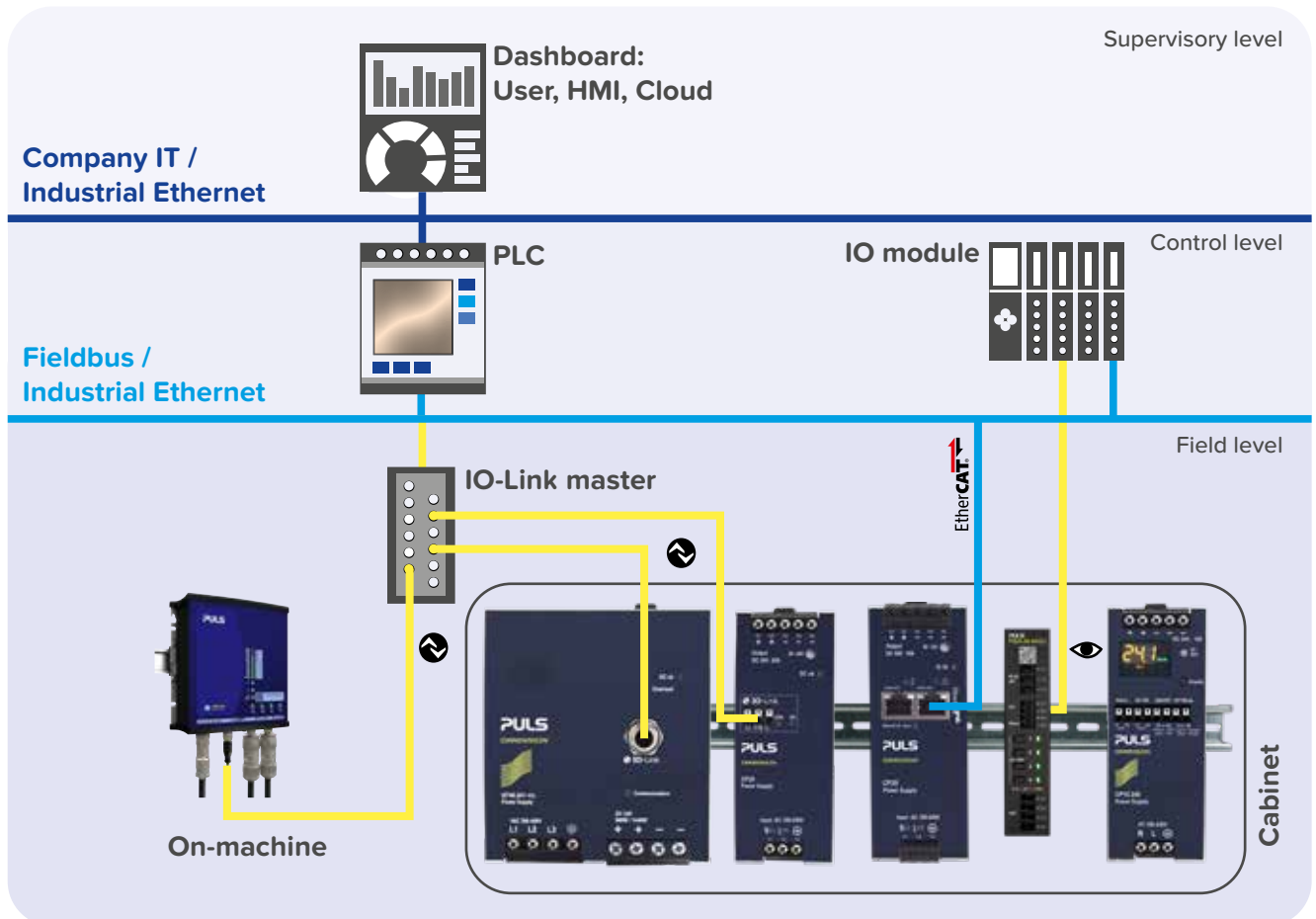
Avoid costly downtimes

Implement preventative maintenance and fix errors before they occur.



Increase overall efficiency

Reduce energy costs and speed up fault analysis and troubleshooting.



INDUSTRIAL COMMUNICATION OPTIONS

supported by PULS

AUTOMATION NETWORK

Fast and efficient EtherCAT

PULS power supplies with an integrated EtherCAT ports can be connected directly to EtherCAT controllers – without the need for additional gateways, providing easy and rapid access to all application data and power supply functions. The real-time capabilities and high-speed transmission of EtherCAT is ideal for maintenance, logging and remote control in large-scale systems.

The power supply data can also be used within real-time control loops. Based on the data, drives or other high-energy users can be controlled in an optimal way to keep the dynamic power needs within the capabilities of the power supply system. This enables improved system efficiency as power supplies can be used at the optimal operating point.

Multi-device access from system controller

Smart and independent IO-Link

IO-Link is used in many machines and can be integrated into many fieldbus networks using IO-Link masters acting as gateways.

PULS provides a range of power supplies with IO-Link interface that allow remote configuration, e.g. output voltage or fuse settings, remote diagnostics and control.

Classic signals

Local und beneficial 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 (PSCD) in the CP10.248 and CP20.248.

This makes the direct monitoring and analysing of any application possible.

Easy and safe 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.



DIMENSION

CP- and Q-Serie

Product type	CP10	CP20	QT40
Input			
AC voltage	100-240 V (-15 % / +10 %)	100-240 V (-15 % / +10 %)	3AC 380-480 V (-15 % / +20 %)
DC voltage	110-300 V (± 20 %)	110-300 V (± 20 %)	-
Output			
Output power	240 W	480 W	960 W
DC voltage nominal	24 V	24 V 48 V	24 V
DC voltage range	24 – 28 V	24 – 28 V 48 – 56 V	15 – 28.5 V
Output current, nominal	10 A	20 A 10 A	40 A
Power reserves	20 % continuous up to +45 °C ambient	20 % continuous up to +45 °C ambient	50 % for up to 4 s
Efficiency	95.2 %	95.6 % 96.3 %	95.2 %
Connection type options			
Input	Screw, Spring-clamp	Screw, Spring-clamp	Screw
Output	Screw, Spring-clamp	Screw, Spring-clamp	Screw
Mechanical data			
Size (WxHxD)	48x124x127 mm	48x124x127 mm	110x124x143.5 mm
Weight	660 g	835 g	1500 g
IP code	IP20	IP20	IP20
Communication interfaces incl. order numbers			
Power Supply Condition Display (PSCD)	CP10.248	CP20.248	-
IO-Link (M12-A male)	-	-	QT40.241-IOL
IO-Link (Push-in terminals)	-	CP20.242-IOL	-
EtherCAT (2 x RJ45)	CP10.241-ETC	CP20.241-ETC	CP20.481-ETC

Integration into automation networks

PULS offers all the required documentation and tools to integrate our smart power supplies into your automation network, enabling direct access to the device data from the PLC or embedded controller.

This includes extensive documentation – from datasheets, data- and interface-descriptions to quick-start guides, enabling a quick and easy integration.

In addition, PULS also provides the relevant electronic data files like IODD for IO Link or ESI files for EtherCAT.

As part of our quick-start guides, PULS also provides sample configurations and sample programs for selected PLCs and control tools.



FIEPOS eFused

Product type	FPS	FPH	FPT
Input			
AC voltage	AC 100 - 240 V (-15 %/+10 %)	AC 200 - 240 V (-15 %/+10 %)	AC 380 - 480 V (± 15 %)
DC voltage	DC 110 V - 300 V (± 20 %)	DC 200 V - 300 V (± 20 %)	-
Output			
Output power	360 W	600 W	600 W
DC voltage nominal	24 V	24 V	24 V
DC voltage range	24 - 28 V	24 - 28 V	24 - 28 V
Output current, nominal	15 A	25 A	25 A
Power reserves	500 W up to 5 sec	1000 W up to 5 sec	1000 W up to 5 sec
Efficiency	95.7 %	94.8 %	95.6 %
Connection type			
Input	7/8" - 3pin; M12-S	7/8" 3pin	M12-S, 7/8" d
Output	7/8" - 5pin, 7/8" 4 pin, M12-L	M12-L	7/8" 5pin, 7/8" 4pin, M12-L, M12-A
Mechanical data			
Size (WxHxD)	181x183x59 mm	181x183x59 mm	181x183x59 mm
Weight	1200 g	1200 g	1200 g
IP code	IP54, IP65/67	IP54, IP65/67	IP54, IP65/67
Communication interfaces incl. order numbers			
IO-Link (M12-A male)	FPS300.245-016-101 FPS300.245-034-105 FPS300.245-047-103 FPS300.245-049-112 FPS300.246-049-102	FPH500.245-024-103	FPT500.245-018-103 FPT500.245-034-105 FPT500.245-062-117 FPT500.247-064-102



What is PISA?

The PISA devices are multi-channel electronic circuit breakers (ECBs) which are designed for current distribution and protection of DC 12 and 24 V load circuits.

In the event of a fault, the electronic circuit breaker reliably switches off the channels and protects the load.

PISA-M features a digital coded communication interface. This two-way communication protocol can be used to monitor and remotely control the channels of the ECB.

Learn more:



	Power Supply Condition Display (PSCD)	IO-Link *	EtherCAT
Device information			
	Internal temperature Total operating hours	Manufacturer name Product name Serial number User specific marking Hardware and firmware inspection status Stress level Remaining lifetime Internal temperature Total operating hours Turn-on counter Uptime	Vendor ID Product name Serial number HW and SW version Realtime Device status Comm. reliability status Stress level Internal temperature Recorded Total operating hours Internal temperature max. Uptime since last turn-on Turn-on counter
Input parameters			
Realtime	Input voltage R.M.S. / PEAK value	-	Input voltage R.M.S. (1 V)
Recorded	Minimum & Maximum input voltage R.M.S. / PEAK value Input voltage Transient counter	Input voltage Transient counter	Transient counter
Output parameters			
Realtime	Output voltage Output current	Output current	Output current (100 mA) Output voltage (100 mV)
Recorded	Max. output voltage Max. output current	Output voltage	
Events	Over-temperature protection Overload protection Output over-voltage protection	DC warning Bonus Power Overload Temperature too high Input voltage too high / too low Power supply failure Maintenance required	Total output current warning DC-output voltage warning Bonus Power active Overtemperature warnings Overload warning Input voltage out of limits Limited remaining lifetime Changes via local UI
Remote functions	On / off Alarm	On / off Set output voltage	On / off of each channel Remote device configuration (V _{out} , alarm limits, PSU output current warning, local UI, ...)
Communication media requirements	None - built-in UI	IO-Link master PSU with M12 or Push-in connectors	EtherCAT master PSU with M8 or RJ45 sockets

* = Data for IP20 units without e-fuses (FIEPOS with additional information on e-fuses)

Use data the right way

Raw data is worthless if it is not interpreted correctly and concrete recommendations for action are derived from it. Due to the amount of different data available in a system, this step can become complicated.

Our PULS Application Center (PAC) already has decades of experience evaluating and interpreting power supply data. This know-how is available to you at any time. Please feel free to contact our application consultants.

PAC contact



Full control of any machine

Smart power supplies 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 interesting for systems affected by bad AC grid conditions.

In addition, the DC-side can be monitored throughout operation – providing in-time alerts on e.g. 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 and sustainability

Measurement data from AC mains and DC output enables you to monitor and optimise energy consumption. This allow you to reduce operating costs and aligns with sustainability goals, demonstrating commitment to energy efficiency and environmental responsibility.



Enable predictive maintenance

Accessing device and system health data remotely or on-site allows you to implement predictive maintenance strategies. By monitoring and identifying potential issues before they lead to machine failures, you can reduce unplanned downtime, extend the lifespan of your equipment, and save on maintenance costs.



Enhance Productivity

With real-time data at your fingertips, you can fine-tune machine tool parameters for optimal performance. This leads to increased productivity, improved product quality, and reduced waste, ultimately benefiting your customers by delivering better results due to the consistent performance and minimal disruptions.



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PULS is the leading manufacturer of DIN rail power supplies, field power supplies and complementary units. The company was founded in Munich in 1980 by Bernhard Erdl and currently has around 1400 employees worldwide. The division Wiferion – a PULS brand develops innovative technologies in the field of inductive charging systems for automated guided vehicle systems and mobile robots. PULS manufactures all its products in its own plants in Chomutov/Czech Republic, Suzhou/China and Drebach/Germany.



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