

WAGO Communication Module IO-Link

Communication capability

2789-9080



© 2025 WAGO GmbH & Co. KG
All rights reserved.

WAGO GmbH & Co. KG

Hansastraße 27
D - 32423 Minden

Phone: +49 571/887 – 0
Fax: +49 571/887 – 844169
E-Mail: ✉ info@wago.com
Internet: 🌐 www.wago.com

Technical Support

Phone: +49 571/887 – 44555
Fax: +49 571/887 – 844555
E-Mail: ✉ support@wago.com

Every conceivable measure has been taken to ensure the accuracy and completeness of this documentation. However, as errors can never be fully excluded, we always appreciate any information or suggestions for improving the documentation.

E-Mail: ✉ documentation@wago.com

We wish to point out that the software and hardware terms as well as the trademarks of companies used and/or mentioned in the present manual are generally protected by trademark or patent.

WAGO is a registered trademark of WAGO Verwaltungsgesellschaft mbH.

Table of Contents

1 Provisions	5
1.1 Typographical Conventions	5
2 Safety	8
2.1 General Safety Regulations	8
2.2 Electrical Safety	8
2.3 Mechanical Safety	8
2.4 Thermal Safety	9
2.5 Indirect Safety	9
3 Properties	10
3.1 Overview	10
3.2 View	10
3.3 Type label	11
3.4 Product-specific information	11
3.5 Connections	12
3.5.1 IO-Link	12
3.6 Indicators	12
3.7 Technical Data	13
3.7.1 Product	13
3.7.2 Input	13
3.7.3 Power Loss	13
3.7.4 Communication	13
3.7.5 Environmental Requirements	14
3.8 Guidelines, approvals and standards	14
4 Fieldbus Description	15
4.1 Technology	15
4.1.1 IO-Link Technology	15
4.1.2 IO-Link – Functions	15
4.2 Parameters	16
4.2.1 General Module Parameters	16
4.2.2 Specific Module Parameters of the WAGO Power Supply Pro 2	17
4.2.3 Data Structure for WAGO Power Supplies Pro 2	17
4.2.4 Parameter Addresses for WAGO Power Supplies Pro 2	18
4.2.4.1 Password Handling	21
4.2.4.2 Baud Rate (Index 380)	21
4.2.4.3 Data bits (Index 382)	21
4.2.4.4 Stop bits (Index 383)	22
4.2.4.5 Parity (Index 384)	22
4.2.4.6 Data format (Index 386)	22
4.2.4.7 Output behavior (Index 394)	22
4.2.4.8 Configuration of digital input (Index 424)	23
4.2.4.9 Configuration of digital output (Index 432)	24
4.2.4.10 System/General (Index 445)	25
4.3 Messages and Events	26
4.3.1 Error Messages for WAGO Power Supplies Pro 2	26
4.3.2 Events and Measured Values for WAGO Power Supply Pro 2	26
4.4 Other	27
4.4.1 IODD for WAGO Power Supplies Pro 2	27

5 Transport and Storage 28

6 Installation and Removal 29

7 Decommissioning 31

 7.1 Disposal and Recycling 31

8 Appendix 32

 8.1 Installation Regulations Specified by Approvals 32

 8.1.1 Approvals 32

 8.1.2 Safe Ex Operation 32

 8.2 Device IDs of WAGO Power Supplies Pro 2 32

 8.3 Accessories 34

 8.4 Protected Rights 34

1 Provisions

This document applies to the following product:

2789-9080 (IO-Link Communication Module)

Product detail page	 www.wago.com/2789-9080
---------------------	---

The product must only be installed and operated in accordance with the operating instructions. Knowledge of the operating instructions is required for proper use. You can find all documents and information on the detailed product page.

Additional document

-  **Product Manual** of the Pro 2 Power Supply used
-  **Product Manual** IO-Link Master

1.1 Typographical Conventions

Number Notation

100	Decimals: Normal notation
0x64	Hexadecimals: C-notation
'100'	Binary: In single quotation marks
'0110.0100'	Nibbles separated by a period

Text Markups

<i>italic</i>	Names of paths or files
bold	Menu items, entry or selection fields, emphasis
Code	Excerpts from program code
>	Selection of a menu point from a menu
"Value"	Value entries
[F5]	Identification of buttons or keys

Cross References / Links

	Cross references/links to a topic in a document
	Cross references / links to a separate document
	Cross references / links to a website
	Cross references / links to an email address

Sequence of Action

- ✓ This symbol identifies a precondition.
- 1. Action step
- 2. Action step
 - ⇒ This symbol identifies an intermediate result.

- ➔ This symbol identifies the result of an action.
- Individual action step

Lists

- Lists, first level
 - Lists, second level

Figures

Figures in this documentation are for better understanding and may differ from the actual product design.

Warning Messages

DANGER

Type and source of hazard

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

- Action step to reduce risk

WARNING

Type and source of hazard

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

- Action step to reduce risk

CAUTION

Type and source of hazard

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

- Action step to reduce risk

NOTICE

Type and source of malfunction (property damage only)

Indicates a potentially hazardous situation which, if not avoided, may result in damage to property.

- Action step to reduce risk

Information Notices

 Note

Information

Indicates information, clarifications, recommendations, referrals, etc.

2 Safety

2.1 General Safety Regulations

- This documentation is part of the product. Therefore, retain the documentation during the entire service life of the product. Pass on the documentation to any subsequent user of the product. In addition, ensure that any supplement to this documentation is included, if necessary.
- The product must only be installed and put into operation by qualified electrical specialists per EN 50110-1/-2 and IEC 60364.
- Set up permissions management for authorized persons.
 - Physical access may only be made by authorized persons.
 - Digital access may only be made by authorized persons.
- Comply with the laws, standards, guidelines, local regulations and accepted technology standards and practices applicable at the time of installation.

2.2 Electrical Safety

- Make sure the product does not carry any voltage before starting work.

Grounding/Protection/Fuses

- When handling the product, please ensure that environmental factors (personnel, work space and packaging) are properly equalized. Do not touch any conducting parts.

Cables

- To minimize interference (e.g., by electromagnetic interference), maintain a spatial separation between control, signal and data lines and the power supply lines.
- Always design the connection cables for the maximum anticipated current load.
- High currents and the inherent heat generated by the product can cause additional heat generation at the clamping point. Plan for a correspondingly higher temperature range for the connecting cables, or reduce inherent heat by selecting larger conductor cross-sections.

2.3 Mechanical Safety

- Before startup, please check the product for any damage that may have occurred during shipping. Do not put the product into operation in the event of mechanical damage.
- Do not open the product housing.
- The product is an open-type device and is designed for installation in an additional enclosure, which supplies the following safety aspects:
 - Restrict access to authorized personnel and may only be opened with tools.
 - Ensure the required pollution degree in the vicinity of the system.
 - Offer adequate protection against direct or indirect contact.
 - Offer adequate protection against UV irradiation.
 - Prevent fire from spreading outside of the enclosure.
 - Guarantee mechanical stability.

2.4 Thermal Safety

- The surface of the housing heats up during operation. Under special conditions (e.g., in the event of a fault or increased surrounding air temperature), touching the product may cause burns. Allow the product to cool down before touching it.
- The temperature inside the additional enclosure must not exceed the ambient temperature permitted for the mounted product.
- Cooling of the product must not be impaired. Ensure that the air circulation is unobstructed.

2.5 Indirect Safety

- Only use a dry or cloth or a clothed dampened with water to clean the product. Do not use cleaning agents, e.g., abrasive cleaners, alcohols or acetone.
- Clean tools and materials are imperative for handling the product.
- The product contains no parts that can be serviced by the user. Always have all service, maintenance and repair work performed by specialists authorized by WAGO.
- Replace any defective or damaged devices.

3 Properties

3.1 Overview

IO-Link is a communication system for connecting intelligent sensors and actuators to an automation system. This communication system is defined in the IEC 61131-9 standard (see [🔗 IO-Link Technology \[▶ 15\]](#)).

The IO-Link Communication Module enables communication with an IO-Link master. It is plugged onto the communication interface that is integrated on the front of the WAGO Power Supply Pro 2. You can find more information in the [📖 Product Manual IO-Link Master](#).

3.2 View



Figure 1: View

a	Locking tab	
b	Ventilation openings	
c	Optical Status Indicator	🔗 Indicators [▶ 12]
e	Communication interface	
f	Type label	🔗 Type label [▶ 11]
g	Marker carrier	🔗 Accessories [▶ 34]
h	IO link (X5)	🔗 IO-Link [▶ 12]

3.3 Type label

The product’s type plate contains the following information:

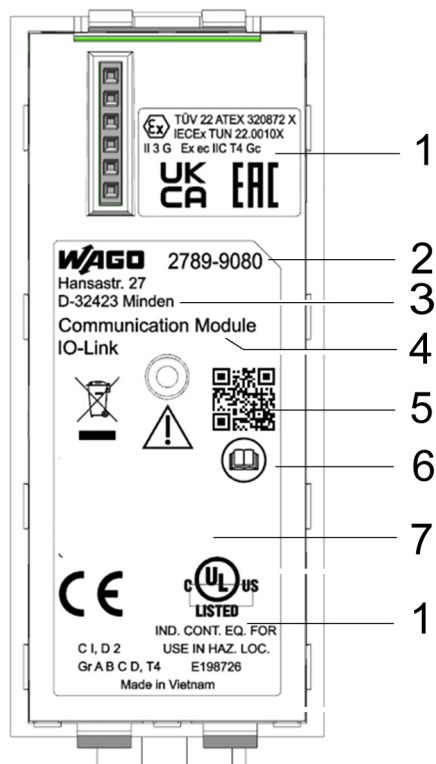


Figure 2: Type label

1	Box for approvals	Guidelines, approvals and standards [► 14]
2	Item Number	
3	Company logo and address	
4	Product name	
5	QR link with link to website	
6	Reference to product documentation	
7	Product-specific information	

3.4 Product-specific information



Figure 3: Product-specific information

1	2D data matrix code	Contains the information for positions 2 ... 5
2	Key number	Fixed information (37S)
3	ID number per D-U-N-S®	Fixed information (WAGO Minden)

4	WAGO item number or internal SAP number	Product-specific
5	Consecutive number	Product-specific
6	Production date and revision	• Production date • Revision index (FC)
7	Internal manufacturer product number	Product-specific
8	Media Access Control Identifier	Product-specific

Table 1: Revision index structure

Software index	Hardware index	Boot loader index
FW	HW	FL

3.5 Connections

3.5.1 IO-Link

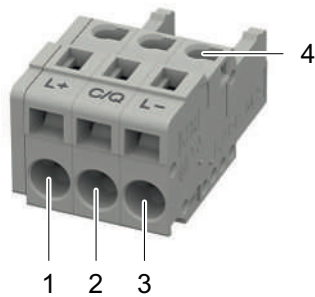


Figure 4: IO-Link X5 port

Pos.	Pin	Description
1	1	Contact "L+" for input voltage
2	2	"C/Q" contact
3	3	"L-" contact for input voltage
4	–	Test slot

Table 2: Details – IO-Link Port

Series	721
Item Number	0721-0103/Z000-0020
Connection Technology	Push-In CAGE CLAMP®

3.6 Indicators

The product has a visual status indicator. This indicator consists of two LEDs.

ERR 

COM OK 

Figure 5: Visual Status Indicator

Table 3: Operating Status Indication

Indicator	LED Description	State	Description
ERR		Off	Ready for operation; no error
		On	General error/system error
		Flashing (2 Hz)	IO-Link connection error

Indicator	LED Description	State	Description
		Flashing (8 Hz)	Connection error to the lower-level device
COM OK		Off	No connection to lower-level device
		On	Ready for operation
		Flashing (2 Hz)	Communication active

3.7 Technical Data

3.7.1 Product

Table 4: Technical Data – Product

Property	Value
Width	35 mm
Height	80 mm / 95 mm (incl. connector/female connector)
Depth	22 mm / 28 mm (incl. latch)
Weight	35 g
Degree of protection	IP20

3.7.2 Input

Table 5: Technical Data – Input

Property	Value
Nominal input voltage	24 VDC SELV (via IO-Link master)
Input voltage range	18 ... 30 VDC SELV (via IO-Link master)
Input current	≤ 15 mA

Table 6: Technical Data – Input Connection

Property		Value
Cross-section	Solid	0.08 ... 2.5 mm ² / 28 ... 12 AWG
	Fine-stranded	0.08 ... 2.5 mm ² / 28 ... 12 AWG
	Insulated ferrule with plastic collar	0.25 ... 1.5 mm ² / 20 ... 16 AWG
	Ferrule without plastic collar	0.25 ... 2.5 mm ² / 20 ... 14 AWG
Strip length		8 ... 9 mm / 0.31 ... 0.35 inch
Required tools (conductor termination)		Operating tool, with a partially insulated shaft, type 2 (see  Accessories ▶ 34)

3.7.3 Power Loss

Table 7: Technical Data – Power Loss

Property	Value
Power loss (max.)	0.36 W

3.7.4 Communication

Table 8: Technical Data – Communication

Property	Value
Vendor ID	285

Property	Value
Device ID	Depends on the used Power Supply, see 🔗 Device IDs of WAGO Power Supplies Pro 2 [p. 32].
Baudrate	230.4 bit/s (COM 3)
Length PD _{IN}	5 bytes
Length PD _{OUT}	1 byte
IO-Link Version	1.1.2
SIO	No
Interlock	DS Lock, Parameter Access Lock
Data storage	Yes
Block parameterization	Yes
ISDU	Yes
Profiles	Common Profile v1.0
Minimum Cycle Time	25.2 ms

3.7.5 Environmental Requirements

Table 9: Technical Data – Environmental Conditions

Property	Value
Test voltage (input/output)	1.8 kVAC, 50 Hz, 1 min
Type of insulation	Functional insulation
Ambient temperature, operation	-25 ... +70 °C
Ambient temperature, storage	-40 ... +85 °C
Relative humidity	5 ... 96 % (no condensation)
Operating altitude above sea level, max.	5000 m
Overvoltage category ¹	III
Pollution degree according to IEC/EN 60664-1	2
Protection class	III (when protective low voltage [SELV] is present via the IO-Link Master)
Protection type ¹	IP20
Isolation	0.63 kV

¹ The lower-level WAGO Power Supply Pro 2

3.8 Guidelines, approvals and standards

The applicable guidelines, approvals and standards for the product can be found on the product detail page at: [🌐 www.wago.com/2789-9080](https://www.wago.com/2789-9080).

4 Fieldbus Description

4.1 Technology

4.1.1 IO-Link Technology

IO-Link defines a communication standard (per IEC 61131-9) for connecting both common digital inputs/outputs and intelligent IO-Link devices to the control level. IO-Link devices describe sensors and actuators on the field level that have IO-Link functionality.

IO-Link technology is predominantly used in the industrial sector of manufacturing automation. With IO-Link, process data communication, as well as configuration, diagnostics and maintenance, can be performed from the controller down to the lowest field level. For example, sensor failures can be diagnosed and localized right in the controller.

Central parameter data storage in the IO-Link Master and the option of pre-configuration make it easy to swap out connected IO-Link devices and copy configurations.

Communication occurs via serial peer-to-peer links in 3-wire connection technology. Data and diagnostic information, as well as the power supply, are transmitted simultaneously via the IO-Link interface.

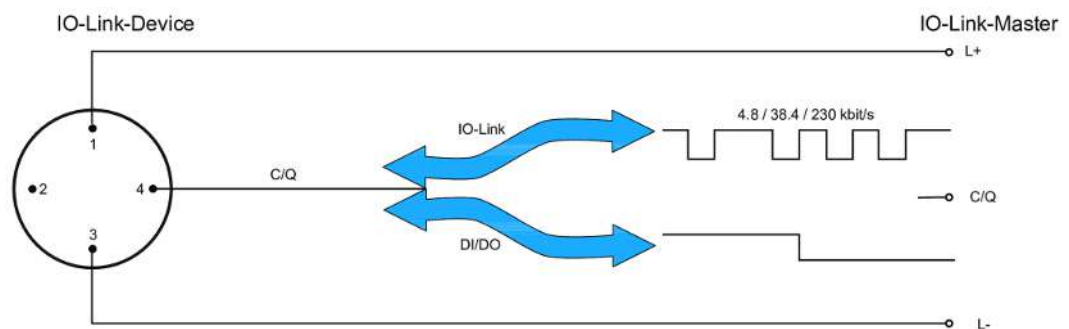


Figure 6: 3-Wire Connection Technology (Based on Physical Layer Specification 2 of IO-Link Specification 1.0.0)

The configuration of the IO-Link devices is based on standardized “IO Device Description” (IODD) files. These are provided by the IO-Link device manufacturers and imported into the specific configuration software. This allows IO-Link devices to be integrated into common automation systems and network structures, regardless of the communication systems used.

4.1.2 IO-Link – Functions

The production has the following functions:

- Reading the current settings from the lower-level device.
- Cyclic reading of the status from the lower-level device.
- Writing settings on the lower-level device.
- Controlling the lower-level device.
- Implementing the “Common Profiles” from IO-Link into the product.

4.2 Parameters

4.2.1 General Module Parameters

The product uses the following default IO-Link parameters:

Table 10: Standard parameters of IO-Link

Index	Subindex	Parameters	Data Type	Datenlänge (Bytes)	Description
12	0	Device Access Locks	RecordT	2	Standardized Device locking functions
13	0	Profile Characteristic	ArrayT of UIntegerT16	2	Profile characteristic
14	0	PDInput Descriptor	ArrayT of OctetStringT3	3	Reserved for Device profile
15	0	PDOOutput Descriptor	ArrayT of OctetStringT3	3	Reserved for Device profile
16	0	Vendor Name	StringT	32	Informative
17	0	Vendor Text	StringT	32	Additional vendor information
18	0	Product Name	StringT	32	Detailed product or type name
19	0	Product ID	StringT	32	Product or type identification
21	0	Serial Number	StringT	16	Description of Device function or characteristic
22	0	Hardware Revision	StringT	5	Vendor specific serial number
23	0	Firmware Revision	StringT	8	Vendor specific format
24	0	ApplicationSpecific Tag	StringT	32	Vendor specific format
25	0	Function Tag	StringT	32	Tag location or tag function defined by user
26	0	Location Tag	StringT	32	Standardized Device locking functions
36	0	Device Status	UIntegerT	1	Contains current status of the Device
37	0	Detailed Device Status	ArrayT of OctetStringT3	96	
40	0	ProcessDataInput		32	Read last valid Process Data from PDin channel
41	0	ProcessDataOutput		32	Read last valid Process Data from PDout channel

For more information on these default parameters, see:

- IO-Link Interface and System Specification Version 1.1.2 Table B.8
- IO-Link Common Profile Specification Version 1.0 Table B.1

4.2.2 Specific Module Parameters of the WAGO Power Supply Pro 2

The product uses the following WAGO-specific parameters:

Table 11: WAGO-specific parameters

Index	Subindex	Parameters	Data Type	Data length (Bytes)	Description
12001	0	Part number module	StringT	8	Module item number
12002	0	Part number extension (module)	StringT	8	Item number extension of the module
12003	0	Hardware version module	StringT	2	HW Release Index of the module in the "XX" format
12004	0	Firmware version module	StringT	8	FW Revision of the module in the "XX.XX.XX" format
12005	0	Configuration ID module	UIntegerT	4	Configuration ID of the module

4.2.3 Data Structure for WAGO Power Supplies Pro 2

The product has the following structure:

- 5-byte input process data
- 1-byte output process data

The structure of the input and output process data is explained below.

Input Process Data

The product has the following input process data (5 bytes):

Table 12: Process Data Structure

Byte	Description
0	Status messages (see Table "Status Message Structure")
1 ... 2	Measured output current 0.000 ... 65.535 A in steps of 1 mA
3 ... 4	Measured output voltage 0.000 ... 65.535 V in steps of 1 mV

Table 13: Status Message Structure

Bit	Description
0	DC OK Set when the output voltage is OK.
1	Overtemperature shutdown $T \geq T_{max}$
2	No output voltage
3	Short circuit at output
4	Digital output set
5 ... 7	Reserved

Output Process Data

The product has the following output process data (1 byte):

Table 14: Control Data Structure

Bit	Description
0	Set device to standby
1	Set DO
2 ... 7	Reserved

4.2.4 Parameter Addresses for WAGO Power Supplies Pro 2

Table 15: Parameter Addresses

In-index	Sub index	Parameter	Access	Data type	Data Storage	Default setting	Range	Data length (Bytes)	Description
340	0	Password	write only	StringT	No			8	Password (see Password Handling [p. 21])
348	0	Password protection level	read/write	UIntegerT	No	0		2	Password protection (for options see Password Handling [p. 21])
378	0	Device address	read/write	UIntegerT	Yes	1	1 ... 247	2	Device ID
379	0	Termination	read/write	UIntegerT	Yes	0	0 ... 2	2	No termination
380	0	Baud rate	read/write	UIntegerT	Yes	19200	4800 ... 560800	4	Baud rate (for options see Baud Rate (Index 380) [p. 21])
382	0	Data bits	read/write	UIntegerT	Yes	1	0 ... 1	2	Data bits (for options see Data bits (Index 382) [p. 21])
383	0	Stop bits	read/write	UIntegerT	Yes	0	0 ... 3	2	Stop bits (for options see Stop bits (Index 383) [p. 22])
384	0	Parity	read/write	UIntegerT	Yes	1	0 ... 2	2	Parity (for options see Parity (Index 384) [p. 22])
385	0	Response delay	read/write	UIntegerT	Yes	0 ms	0 ... 32 ms	2	Time between receive and respond
386	0	Data format	read/write	UIntegerT	Yes	0	0 ... 2	2	Data format (for options see Data format (Index 386) [p. 22])
392	0	Output voltage	read/write	UIntegerT	Yes	12 V: 12000 24 V: 24000 48 V: 48000	11500 ... 14000 mV 23500 ... 28500 mV 47500 ... 56500 mV	2	Requested output voltage

In- dex	Sub inde x	Param- eter	Access	Data type	Data Storage	Default set- ting	Range	Data length (Bytes)	Description
393	0	Over- load warning thresh- old	read/write	UIntegerT	Yes	2.5 A: 0 mA 5 A: 0 mA 10 A: 0 mA 15 A: 0 mA 20 A: 0 mA 40 A: 0 mA	0 ... 2500 mA 0 ... 5000 mA 0 ... 10000 mA 0 ... 15000 mA 0 ... 20000 mA 0 ... 40000 mA	2	Overload threshold between > 0 A and rated current.
394	0	Output Behav- ior	read/write	UIntegerT	Yes			2	Behavior settings (for options see Output behavior (Index 394) [p 22])
395	0	Switch- on de- lay	read/write	UIntegerT	Yes	0 ms	0 ... 60000 ms	2	User-configurable switch-on delay (waiting time between AC mains voltage is applied, i.e., the processor has booted and power stages are switched on).
404	0	Trip current	read/write	UIntegerT	Yes	2,5 A: 2500 mA 5 A: 5000 mA 10 A: 10000 mA 15 A: 15000 mA 20 A: 20000 mA 40 A: 40000 mA	250 ... 2500 mA 500 ... 5000 mA 1000 ... 10000 mA 1500 ... 15000 mA 2000 ... 20000 mA 4000 ... 40000 mA	2	User-configurable threshold between 10 % of rated current and rated current.
405	0	Trip de- lay	read/write	UIntegerT	Yes	100 ms	100 ... 60000 ms	2	Circuit breaker function: User-configurable time how long an overcurrent is ignored. 100 ... 60000 ms
424	0	Signali- sation Config- uration of digi- tal input	read/write	UIntegerT	No			2	Digital input behavior settings (for options see Configuration of digital input (Index 424) [p 23])
432	0	Signali- sation Config- uration of digi- tal out- put	read/write	UIntegerT	No			2	Digital output behavior settings (for options see Configuration of digital output (Index 432) [p 24])

In- dex	Sub index	Param- eter	Access	Data type	Data Storage	Default set- ting	Range	Data length (Bytes)	Description
444	0	Operat- ing hours counter thresh- old	read/write	UIntegerT	Yes	0 h	0 ... 65000 h	2	Digital output be- havior settings (for options see 🔗 Configuration of digital output (Index 432) [▶ 24])
445	0	Sys- tem/ Gen- eral	read/write	UIntegerT	Yes			2	Behavior settings and system pa- rameters (for op- tions see 🔗 Sys- tem/General (In- dex 445) [▶ 25])

DC Output

Table 16: Parameters – DC Output

Index	Subindex	Parameter	Access	Data type	Data length (Bytes)	Description
1542	0	Output power	read only	UIntegerT	4	Output power
1544	0	Output energy of last second	read only	UIntegerT	4	Output level for the previ- ous second
1546	0	Output energy of last minute	read only	UIntegerT	4	Output level for the previ- ous minute
1548	0	Output energy of last hour	read only	UIntegerT	4	Output level for the previ- ous hour
1550	0	Output energy total operation time	read only	UIntegerT	4	Output level for the overall runtime
1558	0	Counter 'Standby Time'	read only	UIntegerT	4	"Standby Time" counter
1560	0	Counter 'Oper- ating Time'	read only	UIntegerT	4	"Operating Time" counter
1562	0	Counter 'Num- ber of supplied TopBoosts'	read only	UIntegerT	2	"Number of supplied TopBoost" counter
1563	0	Counter 'Num- ber of supplied PowerBoosts'	read only	UIntegerT	2	"Number of supplied PowerBoost" counter
1564	0	Counter 'High device temper- ature'	read only	UIntegerT	4	"High device temperature" counter
1566	0	Counter 'Over- heating, device switched off'	read only	UIntegerT	4	"Overheating, device switched off" counter

4.2.4.1 Password Handling

Note

Device must be manually locked!

After the lower-level device is unlocked, it is not automatically relocked. The device lock must be performed manually.

“Password” Parameter

The parameter is used in big-endian format. Only ASCII characters may be used (e.g., for password “123,” a message with the following hexadecimal values must be sent: 31 32 33).

“Password protection level” Parameter

The “Password protection level” parameter controls the behavior of the lower-level device in terms of password protection. There are three password levels:

Table 17: Selection options for password protection

Value	IODD Value	Description
0	no password	No password protection
1	write protection (parameters)	Write protection for parameters
2	read_write protection (parameters)	Read/write protection for parameters

Note

Cannot set parameters at the same time!

When setting the password, it is necessary to first set the “Password” parameter and then the “Password Protection Level” parameter.

4.2.4.2 Baud Rate (Index 380)

Table 18: Selection options for baud rate

Value	IODD Value
4800	4800 baud
9600	9600 baud
19200	19200 baud
38400	38400 baud
57600	57600 baud
115200	115200 baud
230400	230400 baud
560800	560800 baud

4.2.4.3 Data bits (Index 382)

Table 19: Selection options for data bits

Value	IODD Value	Description
0	0	7 bits
1	1	8 bits

4.2.4.4 Stop bits (Index 383)

Table 20: Selection options for stop bits

Value	IODD Value	Description
0	0	1
1	1	0.5
2	2	2
3	3	1.5

4.2.4.5 Parity (Index 384)

Table 21: Selection options for parity

Value	IODD Value	Description
0	Off	None
1	Even	Even
2	Odd	Odd

4.2.4.6 Data format (Index 386)

Table 22: Selection options for data formats

Value	IODD Value	Description
0	Big endian	B0, B1, B2, B3
1	Middle endian	B2, B3, B0, B1
2	Little endian	B3, B2, B1, B0

4.2.4.7 Output behavior (Index 394)

Output on

Bit 0 enables or disables the output.

Table 23: Output on

Bit 0	IODD Value	Description
1	active	enabled
0	inactive	disabled

“Active Droop” parallel mode

Bit 1 enables or disables the “Active Droop” parallel switching mode.

Table 24: “Active Droop” parallel mode

Bit 1	IODD Value	Description
1	active	enabled
0	inactive	disabled

Overload warning

Bit 2 enables or disables the overload threshold warning.

Table 25: Overload warning

Bit 2	IODD Value	Description
1	active	enabled
0	inactive	disabled

Enable switching the DC output on and off

Bit 3 enables or disables the control of the output via cyclic process data.

Table 26: Enable switching the DC output on and off via cyclic process data

Bit 3	IODD Value	Description
1	active	enabled
0	inactive	disabled

Overload behavior

Bits 6 ... 9 control the overload behavior.

Table 27: Overload behavior

Bit 6	Bit 7	Bit 8	Bit 9	IODD Value	Description
1	0	0	0	Constant current	Constant current
0	1	0	0	Constant current (latching mode)	Constant current with latching shut-down
0	0	1	0	Hiccup mode	Hiccup mode
0	0	0	1	Electronic circuit breaker	Electronic circuit breaker

Latching after thermal overload

Bit 12 controls the latching shutdown in case of thermal overload.

Table 28: Latching after thermal overload

Bit 12	IODD Value	Description
1	active	enabled
0	inactive	disabled

Boost behavior

Bits 13 and 14 control the boost behavior.

Table 29: Boost Behavior

Bit 13	Bit 14	IODD Value	Description
0	0	No Boost	Boost disabled
0	1	TopBoost	TopBoost enabled
1	0	PowerBoost	PowerBoost enabled
1	1	PowerBoost + TopBoost	TopBoost and PowerBoost enabled

4.2.4.8 Configuration of digital input (Index 424)

Enable switching DC output on/off via DI

Bit 0 enables switching on and off the output of the power supply. A LOW level at the DI means that the output is switched on. A HIGH level at the DI means that the output is switched off.

Table 30: Enable switching DC output on/off via DI

Bit 0	IODD Value	Description
1	active	enabled
0	inactive	disabled

Digital input settings

Bits 10 to 12 control the settings of the digital input.

Table 31: Digital input settings

Bit 10	Bit 11	Bit 12	IODD Value	Description
0	0	0	Non-inverted	normal, not inverted
1	0	0	Inverted	inverted
0	1	0	Function triggered by low-high transition	Function on edge change (0 to 1)
0	0	1	Function triggered by high-low transition	Function on edge change (1 to 0)

4.2.4.9 Configuration of digital output (Index 432)

DC OK

Bit 0 enables or disables the output of the DC OK status via the digital output.

Table 32: DC OK

Bit 0	IODD Value	Description
1	active	enabled
0	inactive	disabled

Load current warning level exceeded

Bit 1 indicates whether the overload warning threshold has been exceeded.

Table 33: Load current warning level exceeded

Bit 1	IODD Value	Description
1	active	enabled
0	inactive	disabled

Electronic circuit breaker tripped

Bit 2 indicates whether the electronic circuit breaker has tripped.

Table 34: Electronic circuit breaker tripped

Bit 2	IODD Value	Description
1	active	enabled
0	inactive	disabled

Power supply switched off (latched)

Bit 3 controls the latching shutdown.

Table 35: Power supply switched off (latched)

Bit 3	IODD Value	Description
1	active	enabled
0	inactive	disabled

Enable switching DO on/off via process data

Bit 4 enables or disables the control of the output via cyclic process data.

Table 36: Enable switching DO on/off via process data

Bit 4	IODD Value	Description
1	active	enabled
0	inactive	disabled

Digital output on

The DO is controlled if “Enable switching DO on/off via process data” is enabled.

Table 37: Digital output on

Bit 5	IODD Value	Description
1	active	enabled
0	inactive	disabled

Inverted settings

Bit 10 determines whether inverted or non-inverted settings are used.

Table 38: Inverted settings

Bit 10	IODD Value	Description
0	Non-inverted	normal, not inverted
1	Inverted	inverted

4.2.4.10 System/General (Index 445)

Behavior on application of power

Bits 0 to 2 determine the behavior with applied voltage.

Table 39: Behavior on application of power

Bit 0 ¹	Bit 1 ¹	Bit 2 ¹	IODD Value	Description
1	0	0	Restore previous state	Restore previous state
0	1	0	DC output switched on	DC output switched on
0	0	1	DC output remains switched off	DC output remains switched off

1) Bits 0, 1 and 2 must be mutually locked (at least one bit must be set).

Activate switch-on delay

Bit 3 enables or disables the switch-on delay.

Table 40: Activate switch-on delay

Bit 3	IODD Value	Description
1	active	enabled
0	inactive	disabled

Activate key lock

Bit 6 enables or disables the key lock.

Table 41: Activate key lock

Bit 6	IODD Value	Description
1	active	enabled
0	inactive	disabled

Disable reset to factory settings

Bit 7 locks or unlocks the reset to factory settings.

Table 42: Disable reset to factory settings

Bit 7	IODD Value	Description
1	active	enabled
0	inactive	disabled

4.3 Messages and Events

4.3.1 Error Messages for WAGO Power Supplies Pro 2

Table 43: Error Messages

Index (Hex.)	Error Message	Description
0x8000	Device application error – no details	Unsupported function
0x8011	Index not available	Parameters not available on this index.
0x8012	Subindex not available	Subindex not available
0x8023	Access denied – Index not writeable	Write access to RO ¹⁾ parameter
0x8030	Parameter value out of range	Limiting value overrun
0x8033	Parameter length overrun	Invalid parameter length, structure error, CRC ²⁾ error
0x8035	Function not available	Writing an invalid value to command parameter.
0x8036	Function temporarily unavailable	Command not possible due to current command status (e.g., during block parameterization that is not closed; other commands are rejected).
0x8040	Invalid parameter set	Written parameter value does not match the current configuration.
0x8041	Inconsistent parameter set	Plausibility check of the block parameterization failed.
0x8158	Password protection active	No parameter access; password protection enabled
¹⁾ Read Only		
²⁾ Cyclic redundancy check		

4.3.2 Events and Measured Values for WAGO Power Supply Pro 2

Table 44: Events – Warnings

Index	Bit No.	Events – Warning	Description
1539	0	Output under-voltage	Undervoltage at output below DC OK threshold
	1	outOverVoltage	Overvoltage: +10 % of the set output voltage
	2	OutputOverLoad	Overload present
	3	outOverLoadCustom	Configurable overload threshold has been exceeded.
	4	opHoursLimitReached	Configurable operating hours have been reached.
	5	powerBoostActive	PowerBoost output, information is visible for 5 seconds.
	6	topBoostActive	TopBoost output, information is visible for 5 seconds.
	7	highTemperature	High device temperature
	8	diEvent	Event on DI is present.

Table 45: Events – Errors

Index	Bit No.	Events – Errors	Description
1540	0	Overheating, device switched off	Overtemperature, device switched off
	1	No output voltage	No output voltage
	2	Output short circuit	Short circuit at output
	3	Electronic circuit breaker tripped	Circuit breaker tripped

4.4 Other

4.4.1 IODD for WAGO Power Supplies Pro 2

An IODD (manufacturer's device description file) can be assigned to each connected IO-Link-capable product. This IODD contains the available parameters.

You can find the IODD for WAGO products here: <https://ioddfinder.io-link.com>:

1. Enter **WAGO** as the manufacture on the search screen.
2. Click the **[Next]** button.
 - ⇒ The page with all IODDs from WAGO opens.
3. Select your product and your IODD version.
4. Click **[Download]**.
5. Click **[Save File]**.
 - ⇒ The IODD is saved as a package in zip format on your PC.

The following files are included in the IODD package:

- Actual IODD in XML format
- Corresponding product images
- WAGO logo

You can find more information about IODD in the  **Product Manual IO-Link Master**.

5 Transport and Storage

The original packaging offers optimal protection during transport and storage.

- Store the product in suitable packaging, preferably the original packaging.
- Only transport the product in suitable containers/packaging.
- Make sure the product contacts are not contaminated or damaged during packing or unpacking.
- Observe the specified ambient climatic conditions for transport and storage.

6 Installation and Removal

! NOTICE

Do not cover the ventilation openings!

Covered ventilation openings can lead to overheating of the product.

- Keep all ventilation openings clear!

The letters shown in parentheses refer to positions in figure “View” in [View \[▶ 10\]](#).

i Note

Mounting positions

The nominal mounting position is (see also figure “View” in [View \[▶ 10\]](#)): front side facing forwards, marking legible, bottom ventilation openings (b) facing upwards and downwards

Mounting

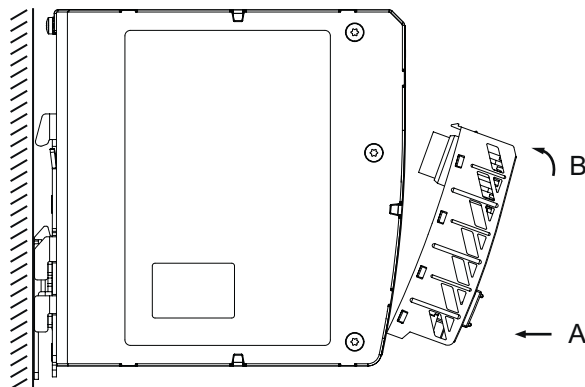


Figure 7: Mounting

Install the product by snapping it onto the WAGO Power Supply Pro 2 (see figure “Installation”):

1. Remove the cap from the communication interface on the WAGO Power Supply Pro 2.
2. Keep the cap in a safe place so that you can cover the communication interface again when this interface is not required.
3. Remove the mounted marker carrier from the WAGO Power Supply Pro 2.
4. Insert the product with the lower latches into the lower mounting slots of the WAGO Power Supply Pro 2 [A].
5. Slide the product toward the communication interface [B] until the top latches latch into the top mounting slots.
6. Verify that the product is snapped on properly.

Removal

! NOTICE

Material damage due to hot swapping!

Hot swapping the product leads to increased abrasion of the contacts. Resulting in a shorter product life time.

- Only remove the product when it is switched off.

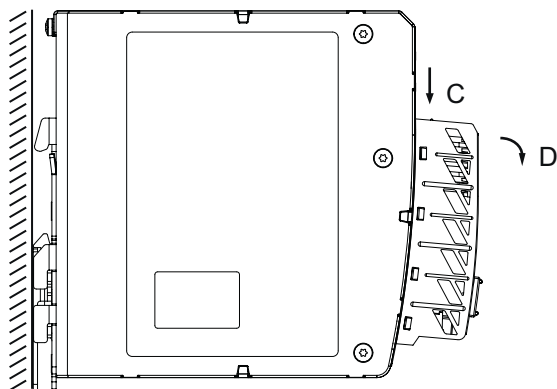


Figure 8: Removal

1. Press the top locking tab (a) of the product [C].
2. Pivot the product to remove it from the WAGO Power Supply Pro 2 [D].

! NOTICE

Avoid electrostatic discharge!

The products are equipped with electronic components that you may destroy by electrostatic discharge when you touch.

1. Please observe the safety precautions against electrostatic discharge in accordance with EN 61340-5-1/-3.
2. Pay attention while handling the products to good grounding of the environment (persons, job and packing).

7 Decommissioning

7.1 Disposal and Recycling

	WEEE Mark Electrical and electronic equipment may not be disposed of with household waste. This also applies to products without this mark.
---	---

Electrical and electronic equipment contain materials and substances that can be harmful to the environment and health. Electrical and electronic equipment must be disposed of properly after use. Environmentally friendly disposal benefits health, protects the environment from harmful substances in electrical and electronic equipment and enables sustainable and efficient use of resources.

- Observe the national and local regulations for the disposal of electrical and electronic equipment, lithium-ion batteries, lead–acid batteries and packaging.
- Clear any data stored on electrical and electronic equipment.
- Remove lithium-ion batteries, lead–acid batteries or memory cards that are added to the electrical and electronic equipment.
- Wear appropriate personal protective equipment when removing the lithium-ion batteries/lead–acid batteries.
- Dispose of the removed lithium-ion batteries/lead–acid batteries according to your local waste regulations (e. g. collection boxes at the retail or local collection points).
- Have electrical and electronic equipment sent to a local collection point.
- Dispose of all types of packaging to ensure a high level of recovery, reuse and recycling.
- Transport packages from the B2B area can be taken back free of charge via a return system in accordance with the Packaging Act. Please contact our service provider Interseroh directly. The corresponding certificate can be found at: [🌐 corporate-certificates](#).
- Throughout Europe, Directives 2006/66/EC, 94/62/EC and 2012/19/EU (WEEE) apply. National directives and laws may differ.

8 Appendix

8.1 Installation Regulations Specified by Approvals

If the product is used in an application in hazardous areas, it must be labeled accordingly by the user. This labeled product must only be used in hazardous areas.

The technical data contained in the ATEX/IECEX certificate are binding in this application.

8.1.1 Approvals

For assignment of current approvals and applicable guidelines, please refer to www.wago.com.

ATEX
TÜV 14 ATEX 112692X

II 3 G Ex eC IIC T4 Gc
IECEX
IECEX TUN 14.0030X
Ex eC IIC T4 Gc

8.1.2 Safe Ex Operation

- The enclosure (usually provided by the operator or installer) must meet all relevant requirements of IEC 60079-0 and IEC 60079-7 and exhibit at least IP54 protection per IEC 60529.
- The external grounding must be established during the installation.
- Outside the assembly, suitable measures must be taken to ensure the rated voltage is not exceeded by more than 40 % due to temporary faults.
- The connecting and disconnecting of the non-intrinsically safe circuits is only permitted if no explosive atmosphere exists.
- The surrounding air temperature at the installation location must be between -25 and +70 °C.
- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- The following warnings must be placed nearby the unit:
 - WARNING – DO NOT DISCONNECT WHILE ENERGIZED!
 - WARNING – ONLY DISCONNECT IN A NON-HAZARDOUS AREA!

8.2 Device IDs of WAGO Power Supplies Pro 2

Table 46: Device IDs of the respective Pro 2 variant

Article number	Device ID
2787-2144	12591169
	12591170
	12591171

Article number	Device ID
2787-2144/000-030	12591171
2787-2144/000-070	
2787-2146	12591233
	12591234
	12591235
2787-2146/000-030	12591235
2787-2146/000-070	
2787-2147	12591297
	12591298
	12591299
2787-2147/000-030	12591299
2787-2147/000-070	
2787-2448	12591361
	12591362
	12591363
2787-2448/000-030	12591363
2787-2448/000-070	
2787-2347	12591425
	12591426
	12591427
2787-2347/000-030	12591427
2787-2347/000-070	
2787-2348	12591490
	12591491
2787-2348/000-030	12591491
2787-2348/000-070	
2787-2134	12591683
2787-2134/000-030	
2787-2134/000-070	
2787-2135	12591555
2787-2135/000-030	
2787-2135/000-070	
2787-2154	12592131
2787-2154/000-030	
2787-2154/000-070	
2787-2157	12591619
2787-2157/000-030	
2787-2157/000-070	
2787-2344	12592195
2787-2344/000-030	
2787-2344/000-070	
2787-2346	12592259
2787-2346/000-030	
2787-2346/000-070	

Article number	Device ID
2787-2357	12592323
2787-2357/000-030	
2787-2357/000-070	
2787-2358	12592387
2787-2358/000-030	
2787-2358/000-070	

8.3 Accessories

The following accessories are available for the product:

Accessories – Tools

Table 47: Accessories – Tools

Description	Name	Item Number
Operating Tool with Partially Insulated Shaft	Type 2, blade 3.5 × 0.5 mm	210-720

Accessories – Marking

Table 48: Accessories – Marking

Description	Item Number
Marker Carrier	2789-1233
Marking System	2009-0110
WMB Multi Marking System	2009-0115
	2009-0115/0000-0002

Accessories – Spare Parts

Table 49: Accessories – Spare Parts

Description	Item Number
Female connector as spare part, input	0721-0103/Z000-0020

8.4 Protected Rights

- Adobe® and Acrobat® are registered trademarks of Adobe Systems Inc.
- Android™ is a trademark of Google LLC.
- Apple, the Apple logo, iPhone, iPad and iPod touch are registered trademarks of Apple Inc. registered in the USA and other countries. “App Store” is a service mark of Apple Inc.
- AS-Interface® is a registered trademark of the AS-International Association e.V.
- BACnet® is a registered trademark of the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE).
- Bluetooth® is a registered trademark of Bluetooth SIG, Inc.
- CiA® and CANopen® are registered trademarks of CAN in AUTOMATION – International Users and manufacturers Group e.V.
- CODESYS is a registered trademark of CODESYS Development GmbH.
- DeviceNet® is a registered trademark of the Open DeviceNet Vendor Association, Inc (ODVA).
- DALI is a registered trademark of the Digital Illumination Interface Alliance (DiiA).

- Docker® and the Docker® logo are trademarks or registered trademarks of Docker, Inc. in the USA and/or other countries. Docker, Inc. and other parties may also have trademark rights to other terms used herein.
- EtherCAT® is a registered trademark and patented technology licensed by Beckhoff Automation GmbH, Germany.
- ETHERNET/IP™ is a registered trademark of the Open DeviceNet Vendor Association, Inc (ODVA).
- EnOcean® is a registered trademark of EnOcean GmbH.
- **flexROOM**® is a registered trademark of WAGO Verwaltungsgesellschaft mbH.
- Google Play™ is a registered trademark of Google Inc.
- IO-Link is a registered trademark of PROFIBUS Nutzerorganisation e.V.
- KNX® is a registered trademark of the KNX Association cvba.
- Linux® is a registered trademark of Linus Torvalds.
- LON® is a registered trademark of the Echelon Corporation.
- Modbus® is a registered trademark of Schneider Electric, licensed for Modbus Organization, Inc.
- OPC UA is a registered trademark of the OPC Foundation.
- PROFIBUS® is a registered trademark of the PROFIBUS Nutzerorganisation e.V. (PNO).
- PROFINET® is a registered trademark of the PROFIBUS Nutzerorganisation e.V. (PNO).
- QR Code is a registered trademark of DENSO WAVE INCORPORATED.
- Subversion® is a trademark of the Apache Software Foundation.
- Windows® is a registered trademark of Microsoft Corporation.

List of Tables

Table 1	Revision index structure.....	12
Table 2	Details – IO-Link Port.....	12
Table 3	Operating Status Indication.....	12
Table 4	Technical Data – Product.....	13
Table 5	Technical Data – Input.....	13
Table 6	Technical Data – Input Connection.....	13
Table 7	Technical Data – Power Loss	13
Table 8	Technical Data – Communication	13
Table 9	Technical Data – Environmental Conditions	14
Table 10	Standard parameters of IO-Link.....	16
Table 11	WAGO-specific parameters	17
Table 12	Process Data Structure	17
Table 13	Status Message Structure.....	17
Table 14	Control Data Structure	18
Table 15	Parameter Addresses	18
Table 16	Parameters – DC Output	20
Table 17	Selection options for password protection	21
Table 18	Selection options for baud rate	21
Table 19	Selection options for data bits.....	21
Table 20	Selection options for stop bits.....	22
Table 21	Selection options for parity.....	22
Table 22	Selection options for data formats	22
Table 23	Output on	22
Table 24	“Active Droop” parallel mode	22
Table 25	Overload warning.....	22
Table 26	Enable switching the DC output on and off via cyclic process data.....	23
Table 27	Overload behavior.....	23
Table 28	Latching after thermal overload	23
Table 29	Boost Behavior.....	23
Table 30	Enable switching DC output on/off via DI.....	23
Table 31	Digital input settings.....	24
Table 32	DC OK.....	24
Table 33	Load current warning level exceeded	24
Table 34	Electronic circuit breaker tripped.....	24
Table 35	Power supply switched off (latched)	24
Table 36	Enable switching DO on/off via process data	25

Table 37	Digital output on	25
Table 38	Inverted settings.....	25
Table 39	Behavior on application of power	25
Table 40	Activate switch-on delay	25
Table 41	Activate key lock	25
Table 42	Disable reset to factory settings.....	26
Table 43	Error Messages.....	26
Table 44	Events – Warnings.....	26
Table 45	Events – Errors	27
Table 46	Device IDs of the respective Pro 2 variant.....	32
Table 47	Accessories – Tools.....	34
Table 48	Accessories – Marking.....	34
Table 49	Accessories – Spare Parts.....	34

List of Figures

Figure 1	View	10
Figure 2	Type label	11
Figure 3	Product-specific information	11
Figure 4	IO-Link X5 port.....	12
Figure 5	Visual Status Indicator	12
Figure 6	3-Wire Connection Technology (Based on Physical Layer Specification 2 of IO-Link Specification 1.0.0)	15
Figure 7	Mounting	29
Figure 8	Removal.....	30

WAGO GmbH & Co. KG

Postfach 2880 · D - 32385 Minden
Hansastraße 27 · D - 32423 Minden

✉ info@wago.com

🌐 www.wago.com

Headquarters
Sales
Order Service
Fax

+49 571/887 – 0
+49 (0) 571/887 – 44 222
+49 (0) 571/887 – 44 333
+49 571/887 – 844169

WAGO is a registered trademark of WAGO Verwaltungsgesellschaft mbH.

Copyright – WAGO GmbH & Co. KG – All rights reserved. The content and structure of the WAGO websites, catalogs, videos and other WAGO media are subject to copyright. Distribution or modification of the contents of these pages and videos is prohibited. Furthermore, the content may neither be copied nor made available to third parties for commercial purposes. Also subject to copyright are the images and videos that were made available to WAGO GmbH & Co. KG by third parties.