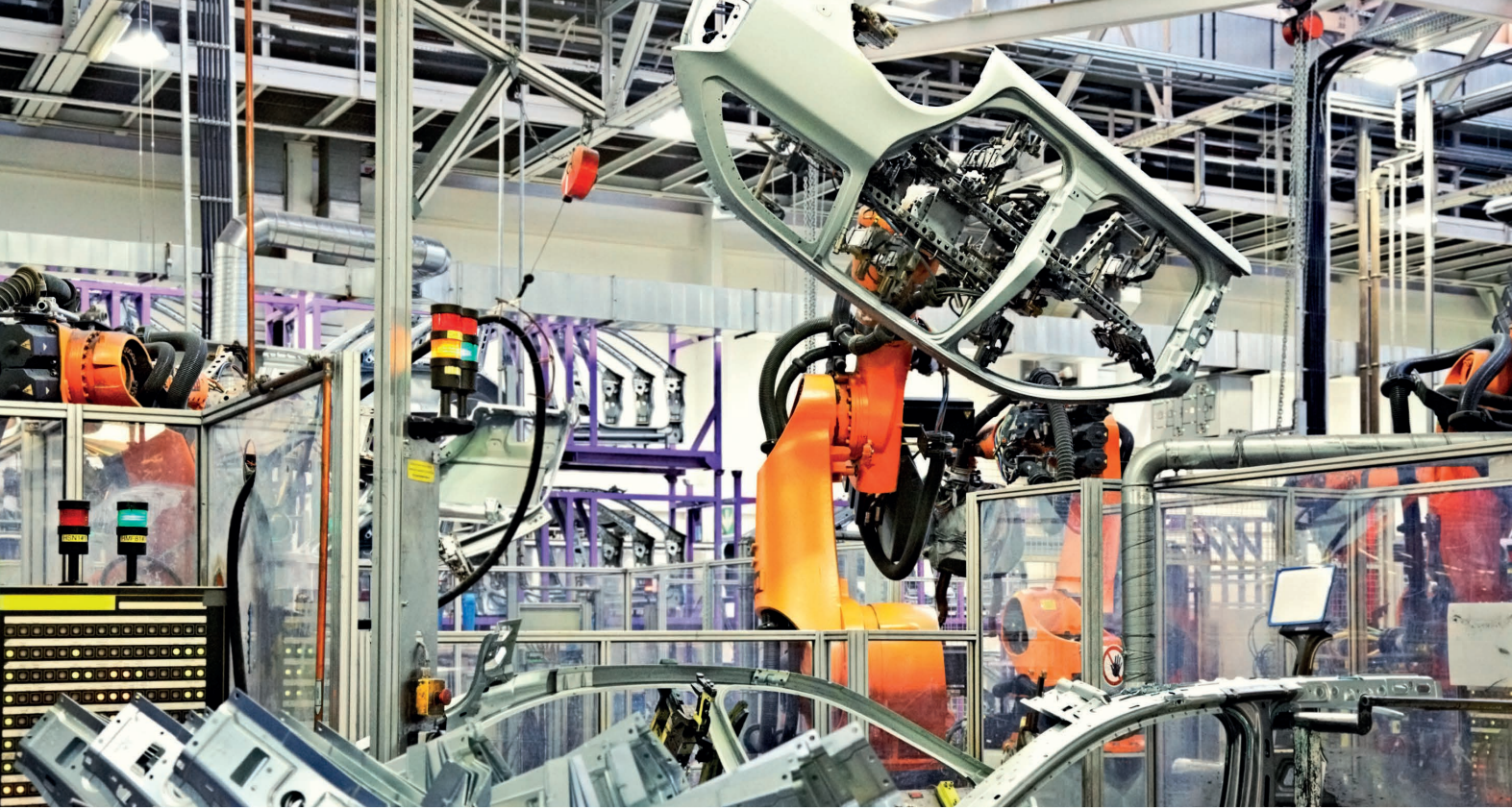# Industrial Communication

Real-time data communication up to field level

The possibilities of industrial data communication are various. They range from simple PNP signal transmission to integration of IO-link capable products to integration of products with integrated Ethernet interface and Power Over Ethernet.

With their range of innovative Industrial Ethernet products wenglor was the first sensor manufacturer to make it possible to transmit process and parameter data from sensors and actuators directly to the control. This ensures continuous data communication in real time up to field level.

Ethernet system advantages

The wenglor Ethernet products are available in the protocols PROFI-NET, EtherNet/IP™, and EtherCAT. They are responsible for transmitting the high-precision measured values to the control.

Wiring effort and installation costs are significantly reduced as data transfer and power supply of the wenglor PoE (Power Over Ethernet) sensors are realized via one single cable and an 8-pin M12×1 Ethernet connector suitable for use in the field.

The web server integrated in the products provides worldwide access to the device-own website of the relevant product. This gives quick and easy access to process and parameter data without additional software.

Extensions of the system are possible at any time. The way the components are linked to each other can be adjusted to the relevant topology in a flexible and individual manner. As every correspondingly standardized product can be connected, even

components by other manufacturers can be integrated in the Ethernet complete system by wenglor.

Plug and Play allows quick and easy exchange of devices.

The high degree of protection IP67 and vibration resistance of all wenglor Ethernet products allows them to be used in demanding industrial environments.

Ethernet sensors at a glance

High-performance distance sensors

- High technology in a miniature design
- Precise laser sensor with a reproducibility from 15 μm and a linearity deviation from 50 μm for standard application
- Maximum precision up to 660 mm for series application

Order number	OCP801P0150x	OCP162P0150x	OCP352P0150x	OCP662P0150x
Working range	30…80 mm	40…160 mm	50…350 mm	60…660 mm
Reproducibility	15…50 μm	20…70 μm	20…150 μm	70…1000 μm
Linearity deviation	50…100 μm	50…160 μm	100…500 μm	100…1000 μm
Design	50×50×30 mm			
Housing material	Metal			
Connection	M12×1, 8-pin			
Light source	Laser red, laser class 1			
Interface	PROFINET, EtherNet/IP™, EtherCAT			

Replace order number "x" with: P for PROFINET, E for EtherNet/IP™ or C for EtherCAT
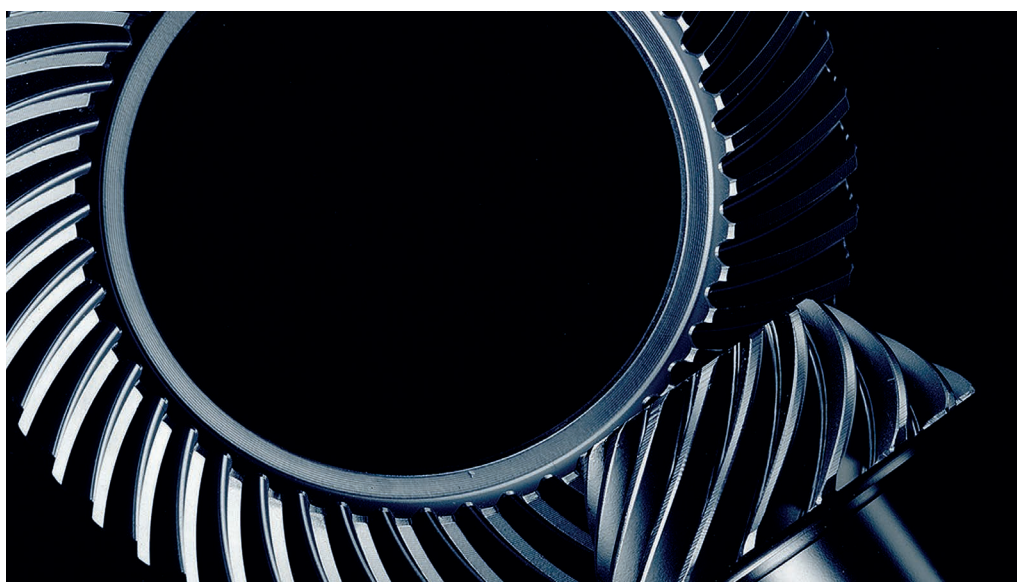
## High-performance distance sensors with WinTec

- Reliably detect and measure black and shiny objects up to 10.1m even in extremely inclined positions – depending on the surface characteristics and the distance from an angle of up to 89°
- No mutual interference of multiple sensors

Order number	OY2TA104P0150x
Working range	0.1...10.1 m
Reproducibility	9 mm
Linearity deviation	20 mm
Design	55×81×30 mm
Housing material	Plastic
Connection	M12×1, 8-pin
Light source	Laser red, laser class 1
Interface	PROFINET, EtherNet/IP™, EtherCAT

Replace order number "x" with: P for PROFINET, E for EtherNet/IP™ or C for EtherCAT

Continuous communication up to field level …

… from **simple PNP** signal transmission …
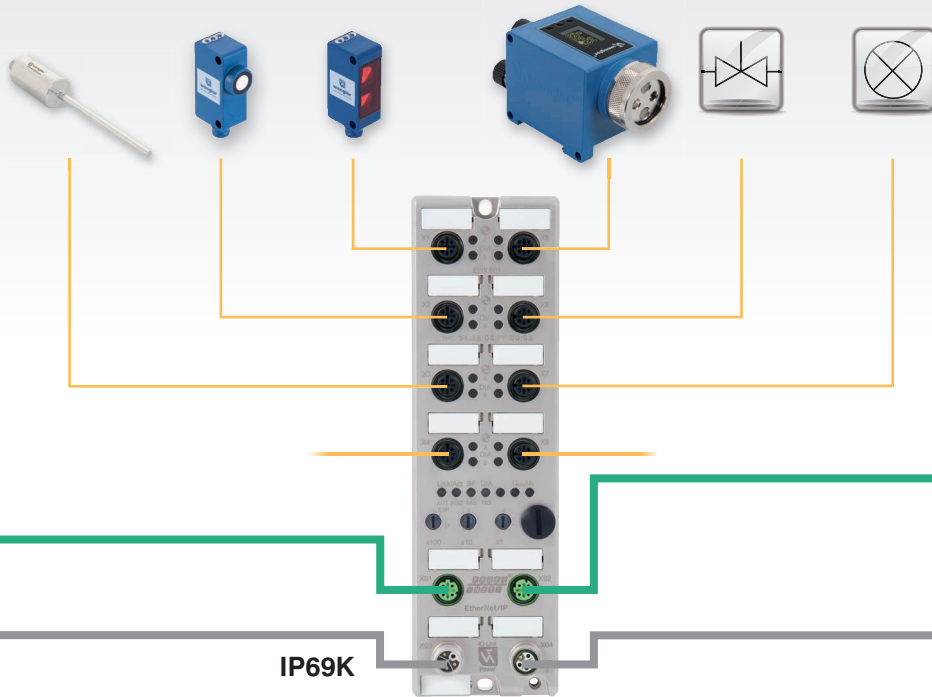
24 V   24 V

SPS

24 V

IP67
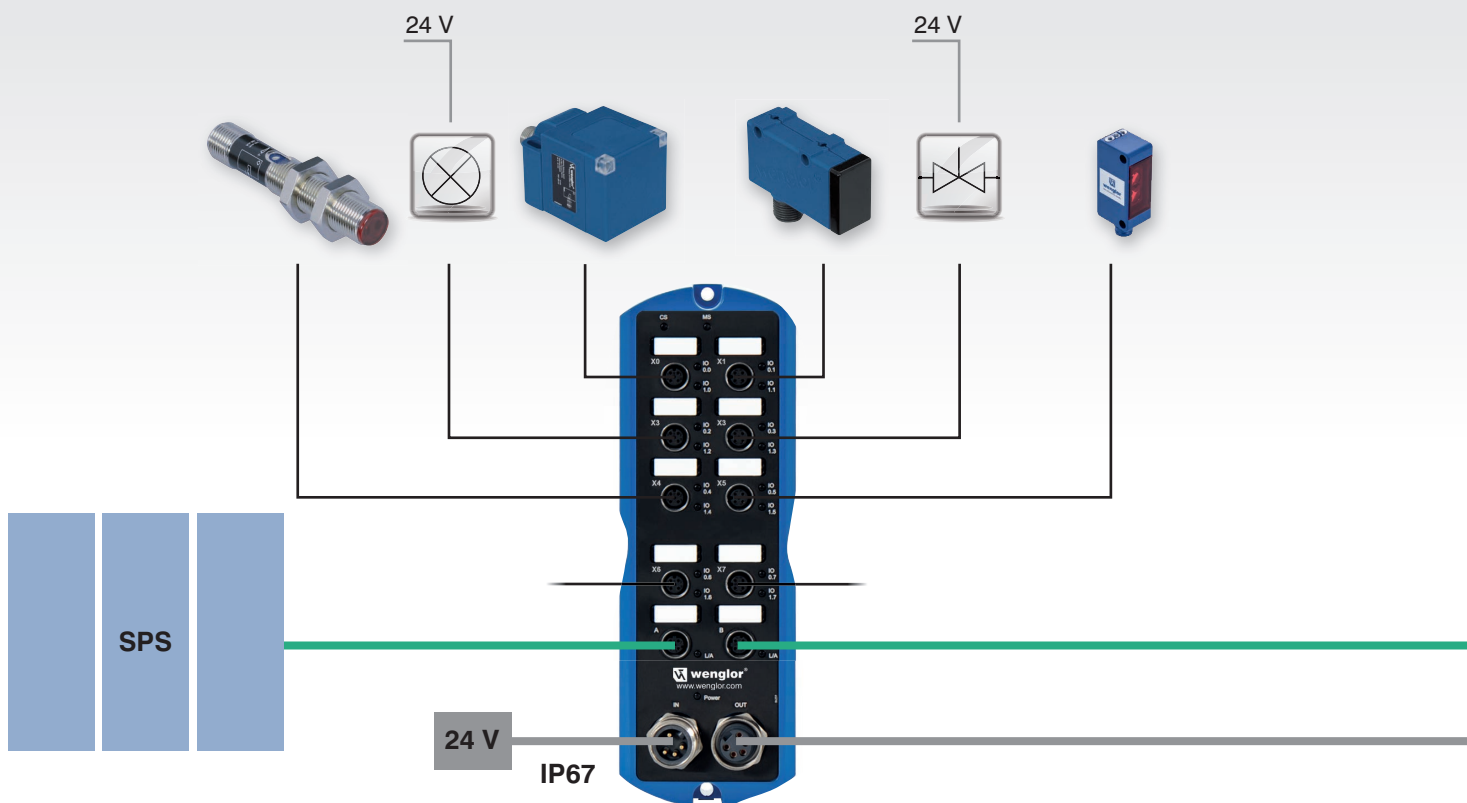
- 24 V Supply Voltage
- (Industrial) Ethernet
- Digital I/O
- IO-Link
- Industrial Ethernet PoE
- Interface RS-232/RS-422/RS-485

**Industrial Ethernet
Connection Box**

EtherNet/IP™   PROFINET®   EtherCAT.

ZAI02xN0x
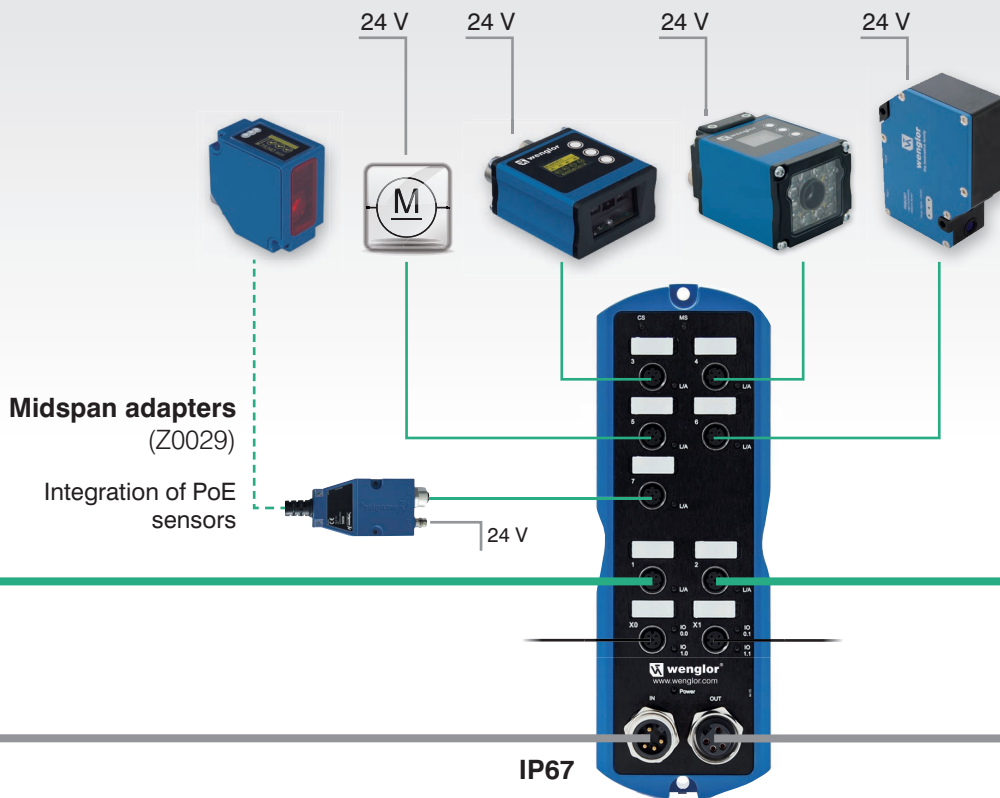
… to integration of ◈ **IO**-Link® capable products …

IP69K

Industrial Ethernet
◈ **IO**-Link® **Master**

EtherNet/IP™ PROFI NET®

EP0L001

Connection of **8 configurable sensors** and **actuators** via ◈ **IO**-Link®

… to the integration of highly developed products
with **Ethernet interface** …

24 V   24 V   24 V   24 V

Midspan adapters
(Z0029)

Integration of PoE
sensors

24 V

IP67

**Industrial Ethernet
Switch**

EtherNet/IP   PROFI NET®

ZAC51xN01

Connection of **7 Industrial Ethernet** products,
2 additional digital I/O ports for **PNP sensors** and **actuators**

… and Industrial Ethernet with **PoE**. _Power over Ethernet_

24 V   24 V   24 V

IP67

**Industrial Ethernet
switch and junction with PoE**
Power over Ethernet

EtherNet/IP™   **PROFI NET®**   EtherCAT.

ZAC50xN01   ZAC50xN02

**Gateway from
RS-232/RS-422/
RS-485 interfaces to
Industrial Ethernet**
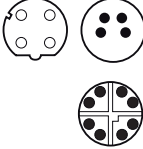(EPGG001, ZAG45FN01)

PROFI NET®   **Ethernet**
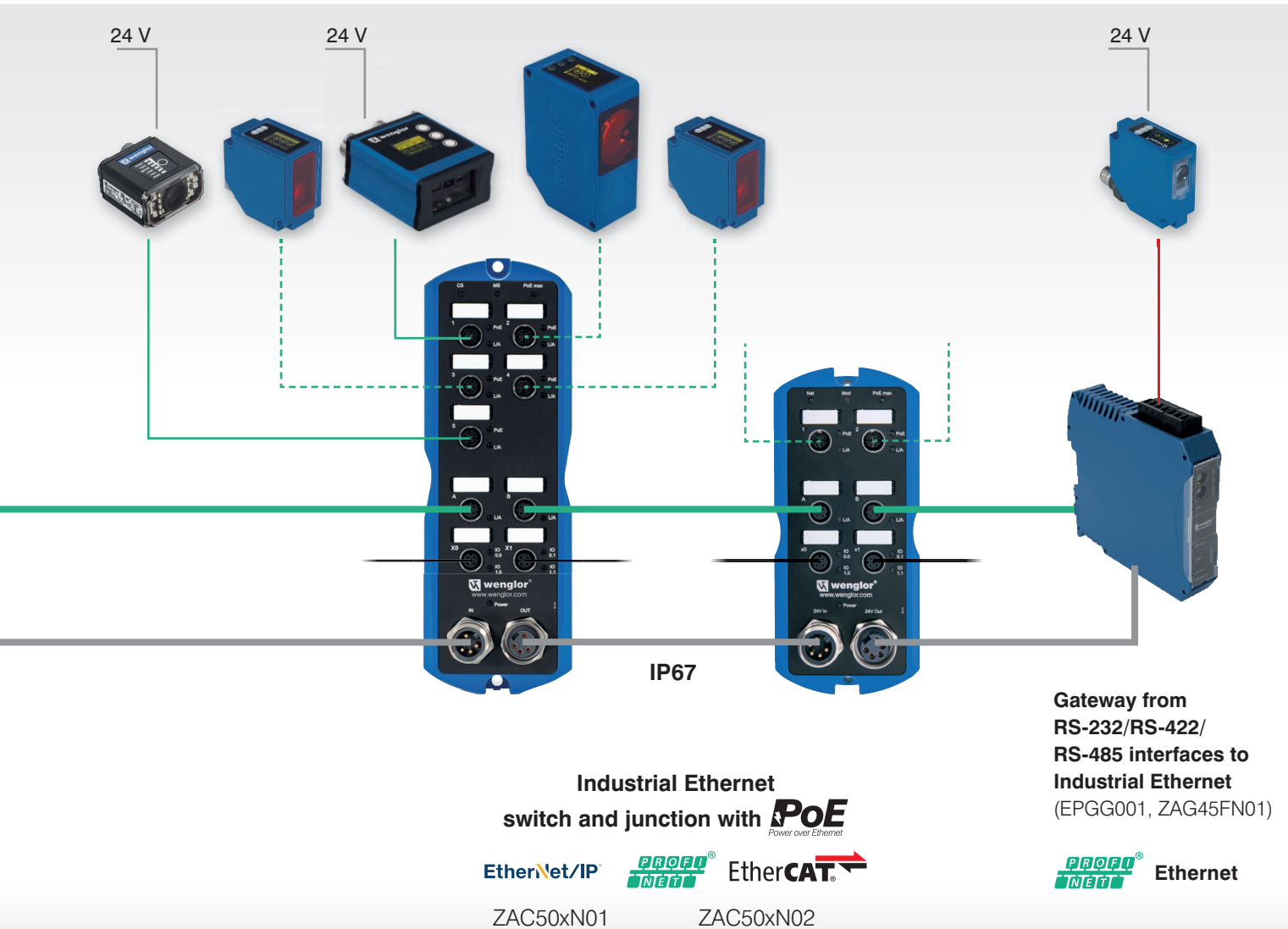
Connection of **7 Industrial Ethernet** products of which **5/2** **PoE** _Power over Ethernet_ **ports**
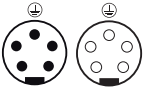
Suitable Connection Technology

Industrial Ethernet Connection Technology

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	ZAV50R201		2 m	no	straight	
	ZAV50R501		5 m	no	straight	
	ZC1V004		5 m	yes	straight	
	ZC1V005	Connection Cable both-sided M12×1 plug, 8-pin, X-coding	10 m	yes	straight	
	ZC1V006		2 m	no	angled/straight	
	ZC1V007		5 m	no	angled/straight	
	ZC1V008		10 m	no	angled/straight	
	ZC1V001		2 m	no	straight	
	ZAV50R502		5 m	no	straight	
	ZC1V003		5 m	yes	straight	
	ZC1V002	Connection Cable M12×1 plug, 8-pin, X-coding to RJ45 plug, 8-pin	10 m	no	straight	
	ZC1V014		10 m	yes	straight	
	ZC1V009		2 m	no	angled/straight	
	ZC1V010		5 m	no	angled/straight	
	ZC1V011		10 m	no	angled/straight	
	ZC1V015		10 m	yes	angled/straight	
	ZAS50R601	Connection Line M12×1 plug, 8-pin, X-coding	10 m	no	straight	
	ZC1L002		10 m	no	angled	
	ZAT50NN01	Connector Plug M12×1, 8-pin, X-coding Available prewired	—	—	straight	

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	ZAV51R901	Connection Cable both-sided M12×1 Stecker, 4-pin, D-coding	0,3 m	yes	straight	
	ZAV51R201		2 m	yes	straight	
	ZAV51R601		10 m	yes	straight	
	ZAV51R202	Connection Cable M12×1 plug, 4-pin, D-coding RJ45 plug, 8-pin	2 m	yes	straight	
	ZAV51R602		10 m	yes	straight	
	ZC2V001		20 m	yes	straight	
	ZAT51NN01	Connector Plug M12×1, 4-pin, D-coding Available prewired	—	—	straight	
	ZAT45NN01	Connector Plug RJ45 plug, 8-pin Available prewired	—	—	straight	

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	Z0029	Midspan Adapter for PoE connection	1 m	no	—	

24 V- Supply Voltage

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	ZAV78R201	Connection Cable 7/8" plug, 5-pin 7/8" socket, 5-pin	2 m	yes	straight	
	ZAS78R601	Connection Line 7/8" socket, 5-pin	10 m	yes	straight	
	ZAT77NN01	Connector Plug 7/8" plug, 5-pin Available prewired	—	—	straight	
	ZAB78NN01	Connection Socket 7/8" socket, 5-pin Available prewired	—	—	straight	

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	ZDHL001	Connection Line M12×1 socket, 5-pin, L-coding	10 m	no	straight	
	ZDJP001	Connector Plug M12×1 plug, 5-pin, L-coding Available prewired	—	—	straight	

Standard Cable Sensor/Actuator

Straight and angled Standard Cables are available in different models

	Part Number	Description	Length	Drag Chain Suitable	Version	Pin assignment
	—	Connection Line M12×1, A-coding	2 m 5 m 10 m	type-specific	angled/straight	