

# Digital module - AXL SE DO16/1



1088129

<https://www.phoenixcontact.com/us/products/1088129>

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Axioline Smart Elements, Digital output module, Digital outputs: 16, 24 V DC, connection technology: 1-conductor, degree of protection: IP20

## Product Description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element emits digital signals.

## Your advantages

- 16 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in 1-conductor technology
- Substitute value behavior of the outputs can be parameterized for the Smart Element
- Device rating plate stored

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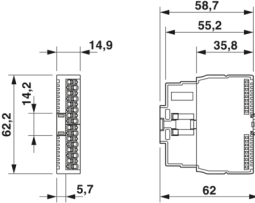
<https://www.phoenixcontact.com/us/products/1088129>

## Commercial Data

Item number	1088129
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C21
Product Key	DRIB32
GTIN	4055626888101
Weight per Piece (including packing)	38.533 g
Weight per Piece (excluding packing)	35 g
Customs tariff number	85389091
Country of origin	DE

## Technical Data

### Dimensions

Dimensional drawing	
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Material specifications

Color	traffic grey A RAL 7042
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### Interfaces

#### Smart Element interface

No. of channels	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.
Start time until ready to operate	< 500 ms

### System properties

#### Module

ID code (hex)	none
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### Output data

#### Digital

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	1-conductor
Number of outputs	16
Protective circuit	Short-circuit and overload protection; electronic
Output voltage	24 V
Maximum output current per module	6 A (Also make sure that the maximum permissible current of 6 A is not exceeded.)

Nominal output voltage	24 V DC
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 µA
Nominal load, inductive	12 VA (1.2 H, 48 Ω, with nominal voltage)
Nominal load, lamp	12 W (at nominal voltage)
Nominal load, ohmic	12 W (48 Ω, with nominal voltage)
Switching frequency	max. 1200 per second (With resistive load, at least 50 mA load current)
	max. 1 per second (with inductive load)
	max. 16 per second (with nominal lamp load)
Reverse voltage resistance to short pulses	limited protection up to 0.5 A for 1 s
Behavior with overload	Shutdown with automatic restart
Behavior with inductive overload	Output can be destroyed

## Product properties

Type	modular
Product type	I/O component
Mounting position	See the system in which the Smart Element is used.

## Insulation characteristics

Overvoltage category	II (IEC 60664-1)
Pollution degree	2 (EN 60664-1)

## Electrical properties

### Potentials: Communications power supply of the Smart Elements ( $U_{SE}$ )

Supply voltage	using card edge connectors
Current draw	max. 20 mA

### Potentials: I/O supply ( $U_P$ )

Supply voltage	24 V DC (using card edge connectors)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 6 A
Current consumption	min. 12 mA (without connected peripherals)
Power consumption	max. 180 W (of which 1.1 W internal losses)
Power consumption	min. 288 mW
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; parallel diode

## Connection data

### Connection technology

Connection name	I/O
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axoline Smart Elements" user manual.

	With a small conductor cross section and high current, the terminal point temperature can reach up to 31 K above the ambient temperature.
	When selecting the cables, observe the permissible operating temperature in accordance with IEC or UL.

## Conductor connection

Connection method	Push-in connection
Conductor cross section solid	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

## I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline Smart Elements" user manual.  With a small conductor cross section and high current, the terminal point temperature can reach up to 31 K above the ambient temperature.  When selecting the cables, observe the permissible operating temperature in accordance with IEC or UL.
Conductor cross section, rigid	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

## Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	Smart Element slot
Mounting position	See the system in which the Smart Element is used.

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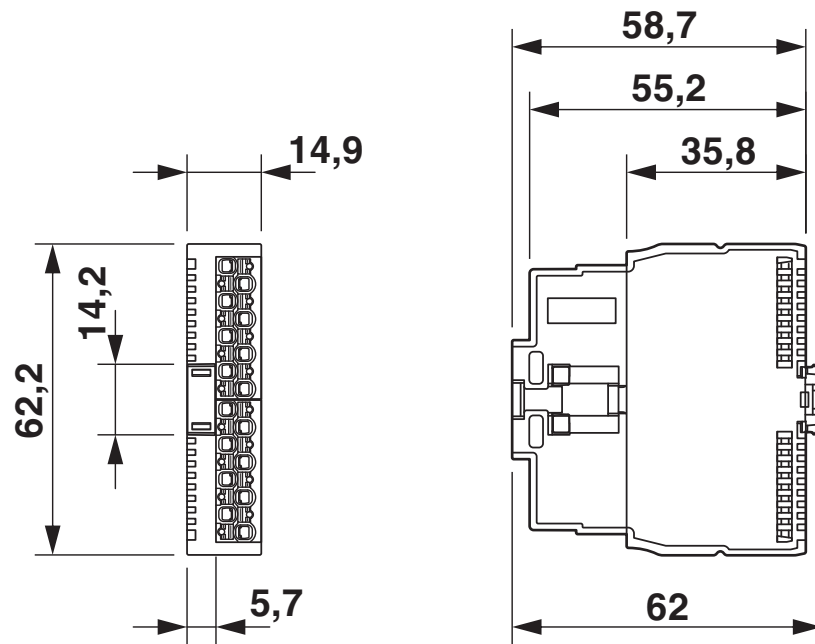
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## Drawings

Dimensional drawing

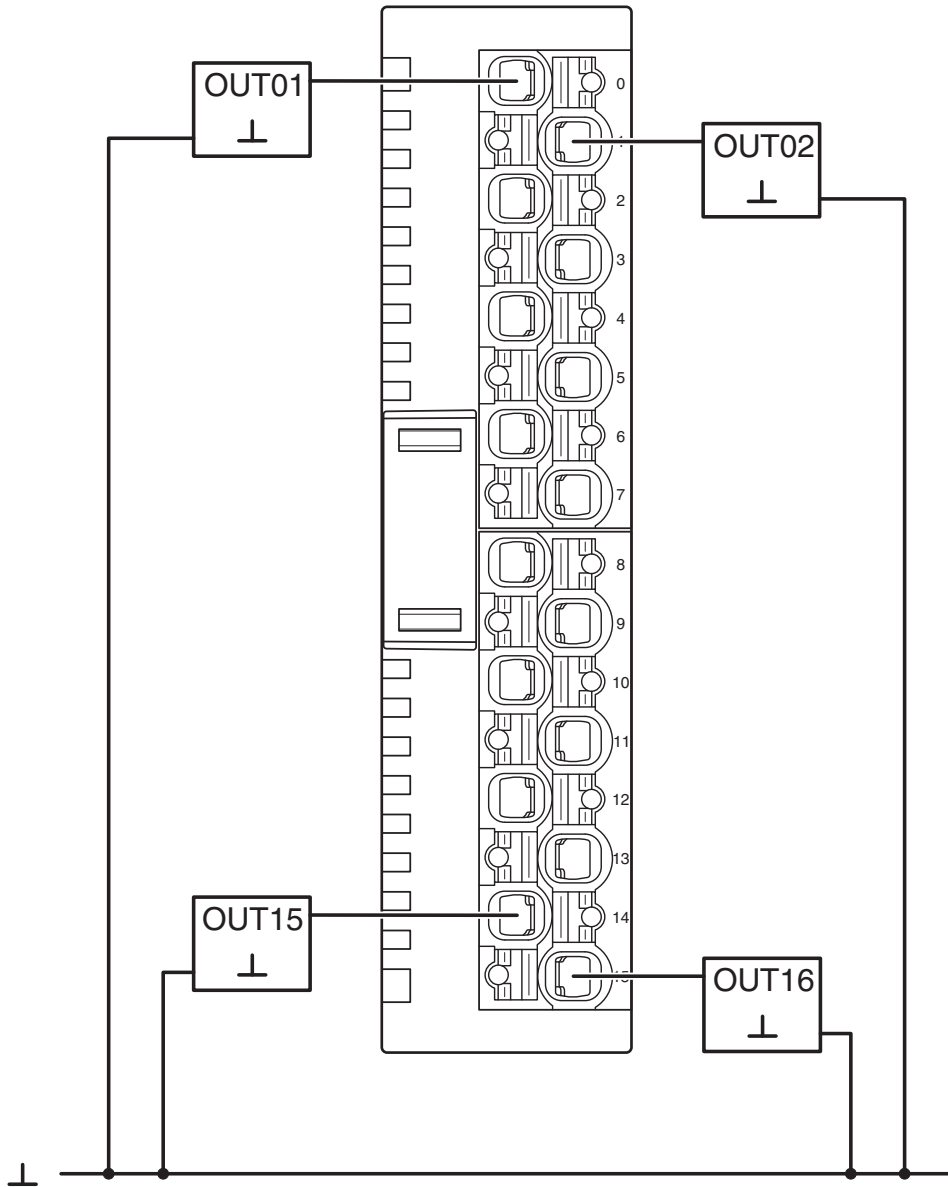


## Dimensions

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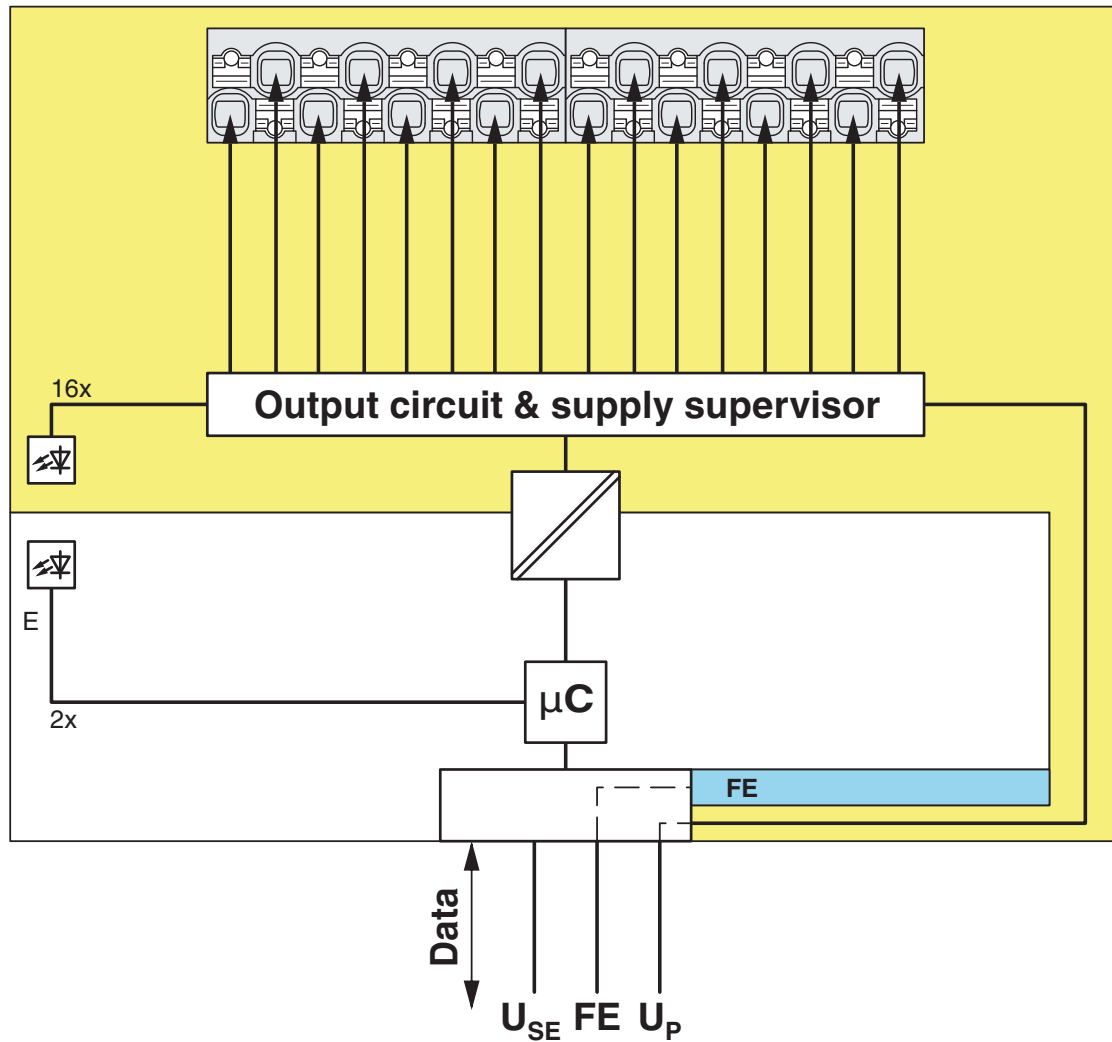
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Connection diagram



Connection example

Block diagram



Internal wiring of the terminal points



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## Approvals



**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	27242604
ECLASS-10.0.1	27242604
ECLASS-11.0	27242604

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Mandatory Accessories

### Module carrier

Module carrier - AXL F BP SE4 - 1088135

<https://www.phoenixcontact.com/us/products/1088135>

Axioline F, Backplane, 4 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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### Module carrier

Module carrier - AXL F BP SE6 - 1088136

<https://www.phoenixcontact.com/us/products/1088136>

Axioline F, Backplane, 6 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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## Accessories

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## Screwdriver

Screwdriver - SZS 0,4X2,5 VDE - 1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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## Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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## Crimping pliers

Crimping pliers - CRIMPFOX DUO 10 - 1031721

<https://www.phoenixcontact.com/us/products/1031721>



Crimping pliers, type of contact: Insulated and uninsulated ferrules, min. cross section:  $0.14 \text{ mm}^2$ , max. cross section:  $10 \text{ mm}^2$ , for TWIN ferrules up to  $2 \times 4 \text{ mm}^2$ , automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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## Crimping pliers

Crimping pliers - CRIMPFOX 10T-F - 1134913

<https://www.phoenixcontact.com/us/products/1134913>



Crimping pliers, type of contact: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section:  $0.14 \text{ mm}^2$ , max. cross section:  $10 \text{ mm}^2$ , For TWIN ferrules up to  $2 \times 4 \text{ mm}^2$ , automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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## Label

Label - MM-TML (EX4,2)R C1 TR/BK - 0803979

<https://www.phoenixcontact.com/us/products/0803979>



Label, Roll, transparent, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, for terminal block width: 8000 mm, lettering field size: continuous x 3.2 mm

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## Marker strip

Marker strip - SK 5,0 WH:REEL - 0805221

<https://www.phoenixcontact.com/us/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm, Number of individual labels: 90000

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## Marker for terminal blocks

Marker for terminal blocks - UM6M-TM (5X12) - 0830928

<https://www.phoenixcontact.com/us/products/0830928>

Markers for marking terminal blocks from ABB/Entrelec, 24-section, unmarked, can be marked with THERMOMARK CARD and BLUEMARK, color: white



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## Marker for terminal blocks from the SNK series from ABB

Marker for terminal blocks from the SNK series from ABB - UCT6M-TM 5 - 0830756

<https://www.phoenixcontact.com/us/products/0830756>

Marker for terminal blocks from the SNK series from ABB, Sheet, white, unlabeled, can be labeled with: THERMOMARK CARD, THERMOMARK CARD 2.0, THERMOMARK PRIME, BLUEMARK ID, BLUEMARK ID COLOR, TOPMARK LASER, TOPMARK NEO, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 4.17 x 11.3 mm





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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/0,5M - 1369888

<https://www.phoenixcontact.com/us/products/1369888>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 0.5 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/1,0M - 1369897

<https://www.phoenixcontact.com/us/products/1369897>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 1 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/1,5M - 1369902

<https://www.phoenixcontact.com/us/products/1369902>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 1.5 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/2,0M - 1369904

<https://www.phoenixcontact.com/us/products/1369904>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 2 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/3,0M - 1369905

<https://www.phoenixcontact.com/us/products/1369905>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 3 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/4,0M - 1369906

<https://www.phoenixcontact.com/us/products/1369906>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 4 m

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## Round cable

Round cable - CABLE-FLK14/AXIO/OE/0,14/6,0M - 1369909

<https://www.phoenixcontact.com/us/products/1369909>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 6 m

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