

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

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16-channel analog input module with screw connection, redundant voltage supply, and additional jumpers for each channel. Suitable for Yokogawa SAI 143 card.

### Product Description


These modules have been specifically developed to connect analog I/O cards to the field level using pre-assembled system cables. The modules offer the following features:

- Transmission of up to 16 channels
- Two parallel system connections for redundant applications
- Fuse and LED per channel
- 2 or 3-wire connection for each channel depending on the jumper position
- Screw connection

The following input cards can be connected:  
SAI 143



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 906937 |
| GTIN         | 4046356906937   |

### Technical data

#### Note

|                         |  |
|-------------------------|--|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area  |
| Type of note            | Notes on operation   |
| Note                    | No additional touch protection is required when using a SELV/PELV voltage ( $\leq 25$ V AC or 60 V DC).  |
| Type of note            | Notes on operation   |
| Note                    | At least one functional insulation against adjacent modules is complied with (in the support rail direction). If the application has stricter requirements for the insulation (basic insulation or reinforced insulation), they must be realized by applying suitable measures (e. g. partition plates). |

# Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

## Technical data

### Dimensions

|        |          |
|--------|----------|
| Width  | 181.5 mm |
| Height | 127.5 mm |
| Depth  | 95 mm    |

### Ambient conditions

|                                 |                                |
|---------------------------------|--------------------------------|
| Ambient temperature (operation) | -20 °C ... 55 °C               |
| Maximum altitude                | ≤ 2000 m                       |
| Degree of protection            | IP00                           |
|                                 | ≥ IP54 (Installation location) |

### Output data

|                                       |                             |
|---------------------------------------|-----------------------------|
| Designation                           | Alarm contact               |
| Contact type                          | 1 N/O contact               |
| Type of switch contact                | Double contact              |
| Contact material                      | AgNi, 5 µm hard gold-plated |
| Maximum switching voltage             | 25 V AC                     |
|                                       | 48 V DC                     |
| Limiting continuous current           | 1 A                         |
| Min. switching current                | 1 mA                        |
| Interrupting rating (ohmic load) max. | 24 W (24 V DC)              |
|                                       | 48 W (48 V DC)              |
|                                       | 25 VA (25 V AC)             |

### General

|                                |   |
|--------------------------------|---|
| Nominal voltage $U_N$          | 24 V DC   |
|                                | 19.2 V DC ... 30 V DC   |
| Max. permissible current       | 0.9 A (per path, protected by slow-blow fuse 1 A, 5x20 (short-circuit protection only)) |
| Max. permissible total current | 10 A (protected by slow-blow fuse 10 A, 5x20 (short-circuit protection only))           |
| Status display                 | LED red   |
| Mounting position              | any   |
| Assembly instructions          | In rows with zero spacing   |

### Connection data

|                                  |                     |
|----------------------------------|---------------------|
| Connection name                  | Field level         |
| Connection method                | Screw connection    |
| Number of connections            | 1                   |
| Number of positions              | 66                  |
| Conductor cross section solid    | 0.2 mm² ... 4 mm²   |
| Conductor cross section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross section AWG      | 24 ... 12           |

### Connection data 2

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Technical data

#### Connection data 2

|                       |                        |
|-----------------------|------------------------|
| Connection name       | Controller level       |
| Connection method     | Yokogawa KS-compatible |
| Number of connections | 2                      |
| Number of positions   | 40                     |
| Torque                | 0.5 Nm                 |

#### Connection data 3

|                                  |                      |
|----------------------------------|----------------------|
| Connection name                  | Supply               |
| Connection method                | Screw connection     |
| Number of connections            | 1                    |
| Number of positions              | 6                    |
| Conductor cross section solid    | 0.34 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.2 mm² ... 2.5 mm²  |
| Conductor cross section AWG      | 24 ... 12            |

#### Supported controller

|                     |                     |
|---------------------|---------------------|
| Controller          | Yokogawa ProSafe-RS |
| - suitable I/O card | SAI143              |

#### Standards and Regulations

|                          |                                       |
|--------------------------|---------------------------------------|
| Designation              | Air clearances and creepage distances |
| Standards/regulations    | DIN EN 50178                          |
| Rated insulation voltage | 50 V                                  |
| Rated surge voltage      | 0.5 kV                                |
| Insulation               | Functional insulation                 |
| Pollution degree         | 2                                     |
| Overvoltage category     | II                                    |

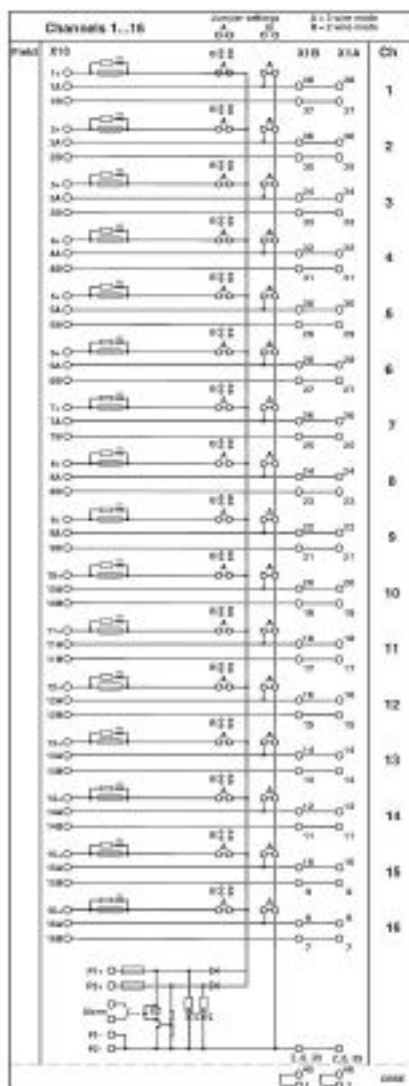
#### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Cadmium oxide 1306-19-0   |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

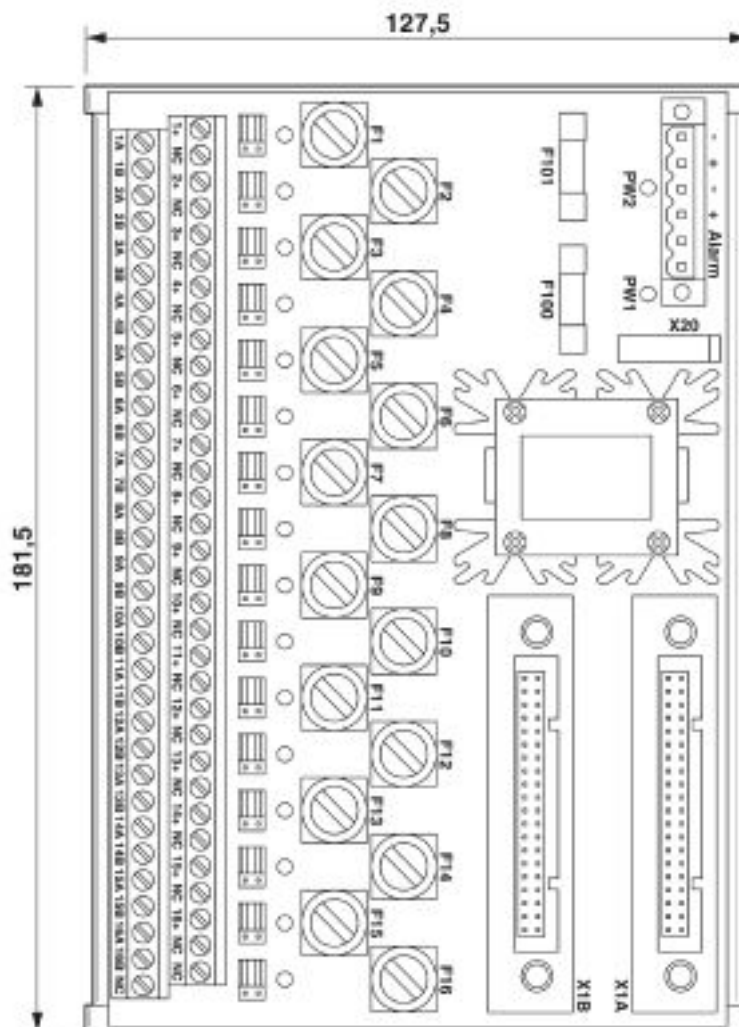
### Drawings

Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Circuit diagram



## Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27141152 |
| eCl@ss 4.0    | 27250313 |
| eCl@ss 4.1    | 27250300 |
| eCl@ss 5.0    | 27371600 |
| eCl@ss 5.1    | 27371600 |
| eCl@ss 6.0    | 27371600 |
| eCl@ss 7.0    | 27141152 |
| eCl@ss 8.0    | 27141152 |
| eCl@ss 9.0    | 27141152 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC002780 |
| ETIM 6.0 | EC002780 |
| ETIM 7.0 | EC002780 |

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39121432 |
| UNSPSC 18.0 | 39121432 |
| UNSPSC 19.0 | 39121432 |
| UNSPSC 20.0 | 39121432 |
| UNSPSC 21.0 | 39121432 |

### Approvals

#### Approvals

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#### Approvals

#### EAC

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#### Ex Approvals

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#### Approval details

|     |   |                         |
|-----|---|-------------------------|
| EAC |  | RU*-<br>DE.*08.B.01829* |
|-----|---|-------------------------|

### Accessories

#### Accessories

#### Front adapter

Front adapters - FLK 40-PA/EZ-DR/KS/ 100/YUC - 2322786



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 1.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

#### Front adapters - FLK 40-PA/EZ-DR/KS/ 200/YUC - 2314341



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 2.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 300/YUC - 2314354



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 3.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 400/YUC - 2314367



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 4.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 500/YUC - 2321570



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 5.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 600/YUC - 2314943



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 6.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

#### Front adapters - FLK 40-PA/EZ-DR/KS/ 700/YUC - 2321583



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 7.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 800/YUC - 2314956



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 8.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/ 900/YUC - 2321415



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 9.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1000/YUC - 2314370



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 10.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1100/YUC - 2321428



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 11.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

#### Front adapters - FLK 40-PA/EZ-DR/KS/1200/YUC - 2321431



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 12.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1300/YUC - 2321444



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 13.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1400/YUC - 2321457



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 14.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1500/YUC - 2314383



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 15.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1600/YUC - 2321596



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 16.0 m



## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

#### Front adapters - FLK 40-PA/EZ-DR/KS/1700/YUC - 2321606



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 17.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1800/YUC - 2321619



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 18.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/1900/YUC - 2321622



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 19.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/2000/YUC - 2314532



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 20.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/2500/YUC - 2314545



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 25.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

#### Front adapters - FLK 40-PA/EZ-DR/KS/3000/YUC - 2314558



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 30.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/3500/YUC - 2901017



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 35.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/4000/YUC - 2901052



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 40.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/KS/4500/YUC - 2902912



Cast front adapter with attached round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 45.0 m

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#### Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 100/YUC - 2904747



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 1.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 200/YUC - 2904748



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 2.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 300/YUC - 2904749



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 3.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 400/YUC - 2904750



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 4.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 500/YUC - 2904645



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 5.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 600/YUC - 2904751



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 60.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 700/YUC - 2904752



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 7.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 800/YUC - 2904753



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 8.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/ 900/YUC - 2904754



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 9.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/1000/YUC - 2904646



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 10.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/1500/YUC - 2904647



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 15.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

Front adapters - FLK 40-PA/EZ-DR/HF/KS/2000/YUC - 2904488



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 20.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/2500/YUC - 2904648



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 25.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/3000/YUC - 2904649



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 30.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/3500/YUC - 2904650



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 35.0 m

Front adapters - FLK 40-PA/EZ-DR/HF/KS/4000/YUC - 2904651



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 40.0 m

## Input module - UM-2KS40/16AI-J/SI/RS/SO225 - 2905003

### Accessories

Front adapters - FLK 40-PA/EZ-DR/HF/KS/4500/YUC - 2904652



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 45.0 m

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Front adapters - FLK 40-PA/EZ-DR/HF/KS/5000/YUC - 2904653



Cast front adapter with attached, halogen-free round cable and a 40-pos. socket strip injection-molded on both sides for the connection of Yokogawa controllers. Cable length: 50.0 m

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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