

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



2905003

<https://www.phoenixcontact.com/us/products/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 preassembled 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-conductor connection for each channel depending on the jumper position
- Screw connection

The following input cards can be connected:  
SAI 143

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2905003                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C421                           |
| Product key                          | DK218N                         |
| GTIN                                 | 4046356906937                  |
| Weight per piece (including packing) | 848.4 g                        |
| Weight per piece (excluding packing) | 818.2 g                        |
| Customs tariff number                | 85369010                       |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                 |                       |
|-----------------|-----------------------|
| Product type    | Interface module      |
| No. of channels | 16                    |
| Operating mode  | 100% operating factor |

### Insulation characteristics: Air clearances and creepage distances

|                      |                       |
|----------------------|-----------------------|
| Insulation           | Functional insulation |
| Overvoltage category | II                    |
| Pollution degree     | 2                     |

### Electrical properties

|                                |                                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------|
| 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))           |
| Nominal voltage $U_N$          | 24 V DC<br>19.2 V DC ... 30 V DC                                                        |

### Air clearances and creepage distances

|                          |        |
|--------------------------|--------|
| Rated insulation voltage | 50 V   |
| Rated surge voltage      | 0.5 kV |

### Supported controller YOKOGAWA ProSafe-RS

|                   |        |
|-------------------|--------|
| Suitable I/O card | SAI143 |
|-------------------|--------|

### Output data

#### Alarm contact

|                                       |                                                     |
|---------------------------------------|-----------------------------------------------------|
| Contact switching 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<br>48 V DC                                  |
| Limiting continuous current           | 1 A                                                 |
| Min. switching current                | 1 mA                                                |
| Interrupting rating (ohmic load) max. | 24 W (24 V DC)<br>48 W (48 V DC)<br>25 VA (25 V AC) |

### Connection data

#### Field level

|                       |                  |
|-----------------------|------------------|
| Connection method     | Screw connection |
| Number of connections | 1                |

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|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Number of positions              | 66                                          |
| Conductor cross-section rigid    | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross-section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 24 ... 12                                   |

## Controller level

|                       |                         |
|-----------------------|-------------------------|
| Connection method     | Yokogawa, KS compatible |
| Number of connections | 2                       |
| Number of positions   | 40                      |
| Tightening torque     | 0.5 Nm                  |

## Supply

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Connection method                | Screw connection                             |
| Number of connections            | 1                                            |
| Number of positions              | 6                                            |
| Conductor cross-section rigid    | 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross-section AWG      | 24 ... 12                                    |

## Signaling

|                           |                        |
|---------------------------|------------------------|
| Status display            | LED (red)              |
| Status display present    | yes, if the fuse fails |
| Operating voltage display | Green LED              |

## Dimensions

### Item dimensions

|        |          |
|--------|----------|
| Width  | 181.4 mm |
| Height | 127.5 mm |
| Depth  | 94.7 mm  |

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

### Air clearances and creepage distances

|                       |                |
|-----------------------|----------------|
| Standards/regulations | EN IEC 60664-1 |
|-----------------------|----------------|

## Mounting

|               |                           |
|---------------|---------------------------|
| Mounting type | DIN rail mounting         |
| Assembly note | in rows with zero spacing |

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|                   |     |
|-------------------|-----|
| Mounting position | any |
|-------------------|-----|

## Notes

|                    |                                                                                                                                                                                                                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | No additional touch protection is required when using a SELV/PELV voltage ( $\leq 25$ V AC or 60 V DC).                                                                                                                                                                                                  |
| Notes on operation | 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). |
| Notes on operation | For proper use, the specifications of the installation directive (see Downloads) must be observed. For applications or use with third-party products, the specifications, and the safety and warning instructions of the respective third-party manufacturer must also be met.                           |

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

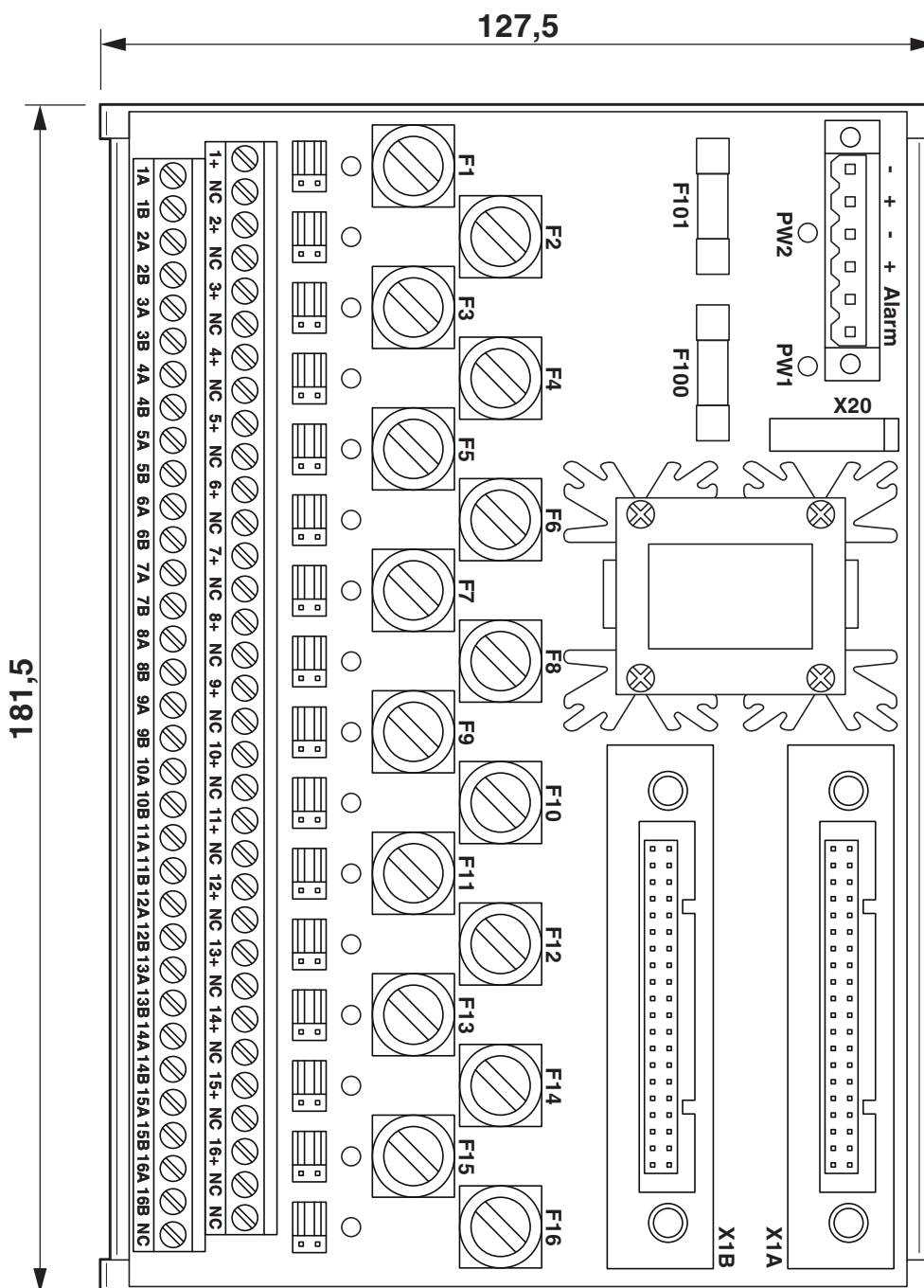
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## Drawings

Dimensional drawing



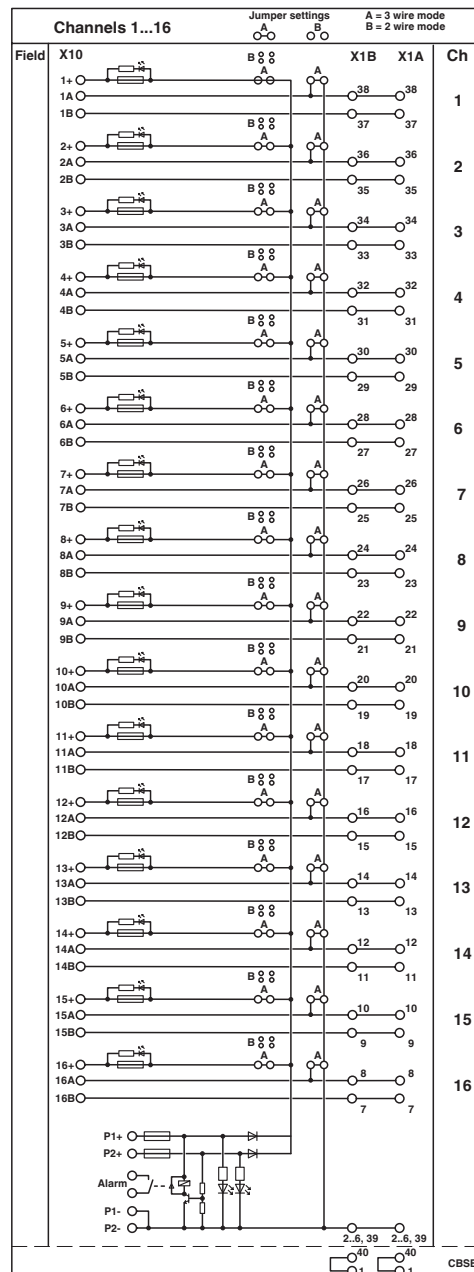
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Circuit diagram



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## Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2905003>



**EAC**

Approval ID: RU\*-DE.\*08.B.01829\*

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27141152 |
| ECLASS-15.0 | 27141152 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002780 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

## Environmental product compliance

### EU RoHS

|                                         |              |
|-----------------------------------------|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 7(a), 7(c)-I |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                             |
|-------------------------------------|---------------------------------------------|
| REACH candidate substance (CAS No.) | Hexahydromethylphthalic anhydride(CAS: n/a) |
|                                     | Lead(CAS: 7439-92-1)                        |
| SCIP                                | fffd9e75-9db7-4483-86f7-419fd90f9031        |

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