

# AXL P EX IS DO4 SD 21-60 1F - Digital module



1087078

<https://www.phoenixcontact.com/us/products/1087078>

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Axioline P, Digital output module, Digital outputs: 4, 21 V, 60 mA, connection technology: 2-conductor, Solenoid drive, intrinsically safe, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and connectors

## Product description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system. The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station. As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/Os to the terminals of the module. The module is fully hot-swappable and may be removed while under power. The module digital output characteristics of 21 V DC and 60 mA allow the connection of up to four solenoid driven, digital output signals.

## Your advantages

- Four 21 V DC - 60 mA digital output-powered control signals for solenoid drives
- Intrinsically safe digital outputs with connection to Zone 1, Zone 0 or Division 1
- Temperature range: -40 °C ... +70 °C
- Hot-swappable

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1087078       |
| Packing unit                         | 5 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR06          |
| Product key                          | DRIP32        |
| GTIN                                 | 4055626882062 |
| Weight per piece (including packing) | 392.5 g       |
| Weight per piece (excluding packing) | 263.5 g       |
| Customs tariff number                | 85389099      |
| Country of origin                    | US            |

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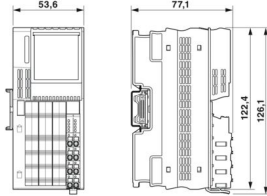


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## Technical data

### Dimensions

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width               | 53.6 mm                                                                            |
| Height              | 126.1 mm                                                                           |
| Depth               | 77.14 mm                                                                           |
| Note on dimensions  | The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715). |

### Notes

#### Note on application

|                     |                         |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

#### Utilization restriction

|          |                                                                           |
|----------|---------------------------------------------------------------------------|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---------------------------------------------------------------------------|

#### Utilization restriction

|            |                                                               |
|------------|---------------------------------------------------------------|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---------------------------------------------------------------|

### Interfaces

#### Axioline P local bus

|                      |                 |
|----------------------|-----------------|
| Number of interfaces | 2               |
| Connection method    | Bus base module |
| Transmission speed   | 100 Mbps        |

### System properties

#### Module

|                     |        |
|---------------------|--------|
| Input address area  | 0 Byte |
| Output address area | 1 Byte |

### Output data

#### Digital:

|                       |                    |
|-----------------------|--------------------|
| Output name           | Digital outputs    |
| Connection method     | Push-in connection |
| Connection technology | 2-conductor        |
| Number of outputs     | 4                  |

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|                                    |                                             |
|------------------------------------|---------------------------------------------|
| Protective circuit                 | Polarity reversal protection of the outputs |
| Output voltage                     | 21 V                                        |
| Output current                     | 60 mA (Per channel)                         |
| Maximum output current per channel | 60 mA                                       |
| Nominal output voltage             | 21 V                                        |

## Product properties

|                    |                                          |
|--------------------|------------------------------------------|
| Product type       | I/O component                            |
| Product family     | Axioline P                               |
| Type               | block modular                            |
| Mounting position  | any (no temperature derating)            |
| Scope of supply    | including bus base module and connectors |
| Special properties | Solenoid drive                           |
|                    | intrinsically safe                       |

## Insulation characteristics

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

## Electrical properties

|                                                 |        |
|-------------------------------------------------|--------|
| Maximum power dissipation for nominal condition | 6.32 W |
|-------------------------------------------------|--------|

## Potentials: Supply voltage ( $U_L$ )

|                      |                                                        |
|----------------------|--------------------------------------------------------|
| Supply voltage       | 24 V DC (via bus base module)                          |
| Supply voltage range | 19.2 V DC ... 30 V DC                                  |
| Current draw         | max. 455 mA (via bus base module)                      |
|                      | typ. 322 mA (via bus base module)                      |
| Protective circuit   | Surge protection; electronic (35 V, 0.5 s)             |
|                      | Reverse polarity protection; Polarity protection diode |
|                      | Transient protection; Suppressor diode                 |

## Potentials: Axioline P local bus supply ( $U_{BUS}$ )

|                |                              |
|----------------|------------------------------|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw   | max. 135 mA                  |
|                | typ. 110 mA                  |

## Electrical isolation/isolation of the voltage ranges

|                                                                             |                         |
|-----------------------------------------------------------------------------|-------------------------|
| Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / functional ground | 500 V AC, 60 Hz, 1 min  |
| Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / analog inputs     | 1500 V AC, 60 Hz, 1 min |
| Test voltage: 24 V supply (I/O) / functional ground                         | 500 V AC, 60 Hz, 1 min  |
| Test voltage: 24 V supply (I/O) / analog inputs                             | 1500 V AC, 60 Hz, 1 min |
| Test voltage: Analog inputs / functional ground                             | 500 V AC, 60 Hz, 1 min  |

## Connection data

### Connection technology

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|                               |                                                                                                                               |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Connection name               | Axioline P connector                                                                                                          |
| Note on the connection method | Please observe the information provided on conductor cross-sections in the "Axioline P: System and installation" user manual. |

## Conductor connection

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Push-in connection                          |
| Conductor cross-section rigid    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 24 ... 16                                   |
| Stripping length                 | 8 mm                                        |

## Axioline P connector

|                                   |                                                                                                                               |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Connection method                 | Push-in connection                                                                                                            |
| Note on the connection method     | Please observe the information provided on conductor cross-sections in the "Axioline P: System and installation" user manual. |
| Conductor cross-section, rigid    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                                                   |
| Conductor cross-section, flexible | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                                                                   |
| Conductor cross-section AWG       | 24 ... 16                                                                                                                     |
| Stripping length                  | 8 mm                                                                                                                          |

## Environmental and real-life conditions

### Ambient conditions

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| Ambient temperature (operation)          | -40 °C ... 70 °C                                  |
| Degree of protection                     | IP20                                              |
| Air pressure (operation)                 | 70 kPa ... 106 kPa (up to 2000 m above sea level) |
| Air pressure (storage/transport)         | 70 kPa ... 106 kPa (up to 2000 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) |
|------------------|---------------------------------------|

## Approvals

### ATEX

|                |                                                                   |
|----------------|-------------------------------------------------------------------|
| Identification | II 3(1) G Ex ec [ia IIB Ga] IIC T4 Gc<br>II (1) D [Ex ia Da] IIIC |
| Certificate    | DEMKO 20 ATEX 2370X                                               |

### IECEX

|                |                                                |
|----------------|------------------------------------------------|
| Identification | Ex ec [ia IIB Ga] IIC T4 Gc<br>[Ex ia Da] IIIC |
| Certificate    | IECEX UL 20.0044X                              |

### UKCA Ex (UKEX)

|                |                                                                   |
|----------------|-------------------------------------------------------------------|
| Identification | II 3(1) G Ex ec [ia IIB Ga] IIC T4 Gc<br>II (1) D [Ex ia Da] IIIC |
|----------------|-------------------------------------------------------------------|

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|             |               |
|-------------|---------------|
| Certificate | UL22UKEX2508X |
|-------------|---------------|

## UL, USA/Canada

|                |         |
|----------------|---------|
| Identification | cULus   |
| Certificate    | E238705 |

## UL Ex, USA / Canada

|                |                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------|
| Identification | Class I, Division 2, Groups A, B, C, D, T4                                                                             |
|                | Intrinsically safe connections to: Class I, Groups A, B, C, D;<br>Class II, Groups E, F, G; Class III; [Ex ia] Haz loc |
|                | Class I, Zone 2, AEx ec [ia IIB Ga] IIC T4 Gc                                                                          |
|                | [AEx ia Da] IIIC                                                                                                       |
|                | Ex ec [ia IIB Ga] IIC T4 Gc                                                                                            |
|                | [Ex ia Da] IIIC                                                                                                        |
| Certificate    | E196811                                                                                                                |

## CCC / China-Ex

|                |                             |
|----------------|-----------------------------|
| Identification | Ex ec [ia IIB Ga] IIC T4 Gc |
|                | [Ex ia Da] IIIC             |

## Ex data

|                  |                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UL, USA / Canada | Ind. Cont. Eq. (E238705) also Listed<br>Ind. Cont. Eq. for haz. loc. E196811<br>Install in: Class I, Div. 2, Groups A, B, C, D T4<br>Intrinsically safe outputs for: Class I, Groups C, D; Class II,<br>Groups E, F, G; Class III; [Ex ia] Haz loc<br>Class I, Zone 2, AEx ec [ia IIB Ga] IIC T4 Gc<br>[AEx ia Da] IIIC<br>Ex ec [ia IIB Ga] IIC T4 Gc<br>[Ex ia Da] IIIC |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mounting

|                   |                               |
|-------------------|-------------------------------|
| Mounting type     | DIN rail mounting             |
| Mounting position | any (no temperature derating) |

## Ex data

### Safety data

|                                                                                              |                         |
|----------------------------------------------------------------------------------------------|-------------------------|
| Max. output voltage $U_o$                                                                    | 24.8 V                  |
| Max. output current $I_o$                                                                    | 180 mA                  |
| Max. output power $P_o$                                                                      | 1116 mW                 |
| Safety-related maximum voltage $U_m$                                                         | 250 V                   |
| C/IIB, IIIC: Max. external inductivity $L_o$ / Max. external capacitance $C_o$               | 2.779 mH / 0.86 $\mu$ F |
| D/IIA, E, F, G, Class III: Max. external inductivity $L_o$ / Max. external capacitance $C_o$ | 7.168 mH / 3.05 $\mu$ F |

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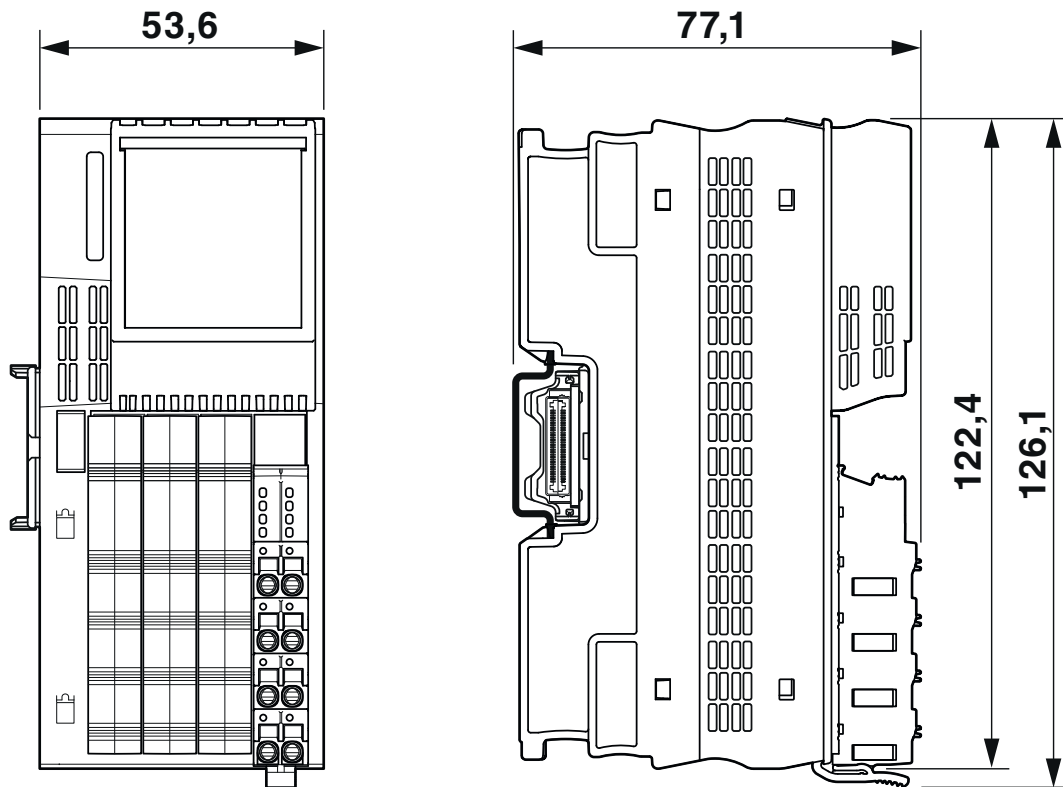


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## Drawings

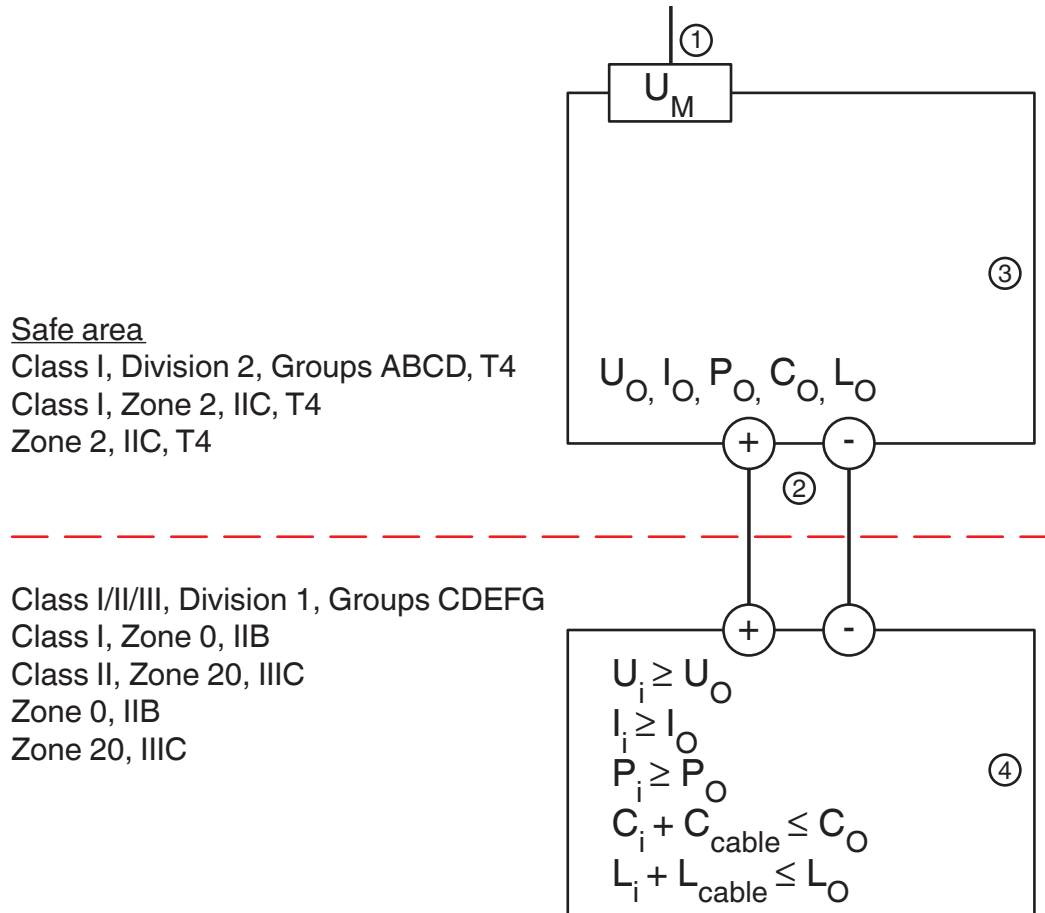
Dimensional drawing



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Schematic diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1087078>



**cULus Listed**

Approval ID: E238705



**IECEX**

Approval ID: IECEx UL 20.0044X



**cUL Listed**

Approval ID: FILE E196811



**UL Listed**

Approval ID: FILE E196811



**ATEX**

Approval ID: DEMKO 20 ATEX 2370X



**CCC**

Approval ID: 2025122316122298



**UKCA-EX**

Approval ID: UL22UKEX2508X

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242604 |
| ECLASS-15.0 | 27242604 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001599 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

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## 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-25                                                                                                                                                                                                                           |
|                                        | 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.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 23ffcfe7-6722-4e05-806f-4c21f0998c7e |

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