

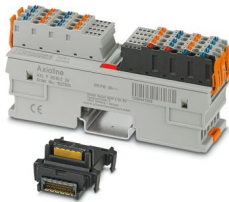
AXL F DO16/2 2H - Digital module



1027904

<https://www.phoenixcontact.com/us/products/1027904>

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Axioline F, Digital output module, Digital outputs: 16, 24 V DC, 500 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and Axioline F connectors

Product description

The module is designed for use within an Axioline F station. It is used to output digital signals. The outputs are protected against short circuit and overload.

Your advantages

- 16 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in 2-conductor technology
- Single-channel diagnostics
- Minimum update time of < 100 μ s
- Device rating plate stored

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1027904 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DR02 |
| Product key | DRI232 |
| GTIN | 4055626523767 |
| Weight per piece (including packing) | 212.8 g |
| Weight per piece (excluding packing) | 212.8 g |
| Customs tariff number | 85389091 |
| Country of origin | DE |

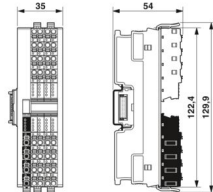
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Technical data

Dimensions

| | |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width | 35 mm |
| Height | 129.9 mm |
| Depth | 54 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 |
|---------------------|-------------------------|

Material specifications

| | |
|-----------------|-----------------|
| Color (Housing) | gray (RAL 7042) |
|-----------------|-----------------|

Interfaces

Axioline F local bus

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

System properties

Programming data (LocalbusSlave)

| | |
|---------------------|--------|
| Input address area | 0 Byte |
| Output address area | 2 Byte |

Fieldbus data telegram (PROFIBUS)

| | |
|-----------------------------|--------|
| Required parameter data | 3 Byte |
| Required configuration data | 6 Byte |

Output data

Digital:

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

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| | |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of outputs | 16 |
| Protective circuit | Short-circuit protection, overload protection of the outputs; electronic |
| Output voltage | 24 V DC |
| Limitation of the voltage induced on circuit interruption | -32.8 V ... -15 V |
| Max. current carrying capacity per output | max. 500 mA |
| Maximum output current per module | 8 A (provide external protection) |
| Nominal output voltage | 24 V DC |
| Load min. | 10 kΩ |
| Output voltage when switched off | max. 1 V |
| Output current when switched off | max. 300 μA |
| Nominal load, inductive | max. 12 VA (1.2 H, 48 Ω, with nominal voltage) |
| Nominal load, lamp | max. 12 W (at nominal voltage) |
| Nominal load, ohmic | max. 12 W (48 Ω, with nominal voltage) |
| Switching frequency | max. 10000 per second (with 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 |
| Signal delay | max. 100 μs (when switched on) max. 100 μs (when switched off, with at least 50 mA load current) |
| Overcurrent shut-down | as of 0.7 A |
| Output current with ground connection interrupt when switched off | < 1 mA |

Product properties

| | |
|-------------------|-----------------------------------------------------|
| Product type | I/O component |
| Product family | Axioline F |
| Type | block modular |
| Mounting position | any (no temperature derating) |
| Scope of supply | including bus base module and Axioline F connectors |

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 | 1.6 W |
|-------------------------------------------------|-------|

Potentials: Axioline F local bus supply (U_{BUS})

| | |
|----------------|------------------------------|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw | max. 60 mA |

Potentials: Supply for digital output modules (U_O)

| | |
|----------------|---------|
| Supply voltage | 24 V DC |
|----------------|---------|

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| | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current draw | max. 8 A (provide external protection) |
| Current consumption | 21 mA (without actuators) |
| Protective circuit | Surge protection; electronic (35 V, 0.5 s) Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning) |
| Protection | max. 8 A (polarity reversal protection up to 5 A) |

Electrical isolation/isolation of the voltage ranges

| | |
|------------------------------------------------------------------------------|------------------------|
| Test voltage: 5 V supply of the local bus (U_{BUS}) / 24 V supply (I/Os) | 500 V AC, 50 Hz, 1 min |
| Test voltage: 5 V supply of the local bus (U_{BUS}) / functional ground | 500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V supply (I/O) / functional ground | 500 V AC, 50 Hz, 1 min |

Connection data

Connection technology

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

Axioline F connector

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

Environmental and real-life conditions

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) |

Mechanical test

| | |
|--------------------------------------------------------------------|-----|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | 5g |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 30g |
| Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 10g |

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Standards and regulations

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

Mounting

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

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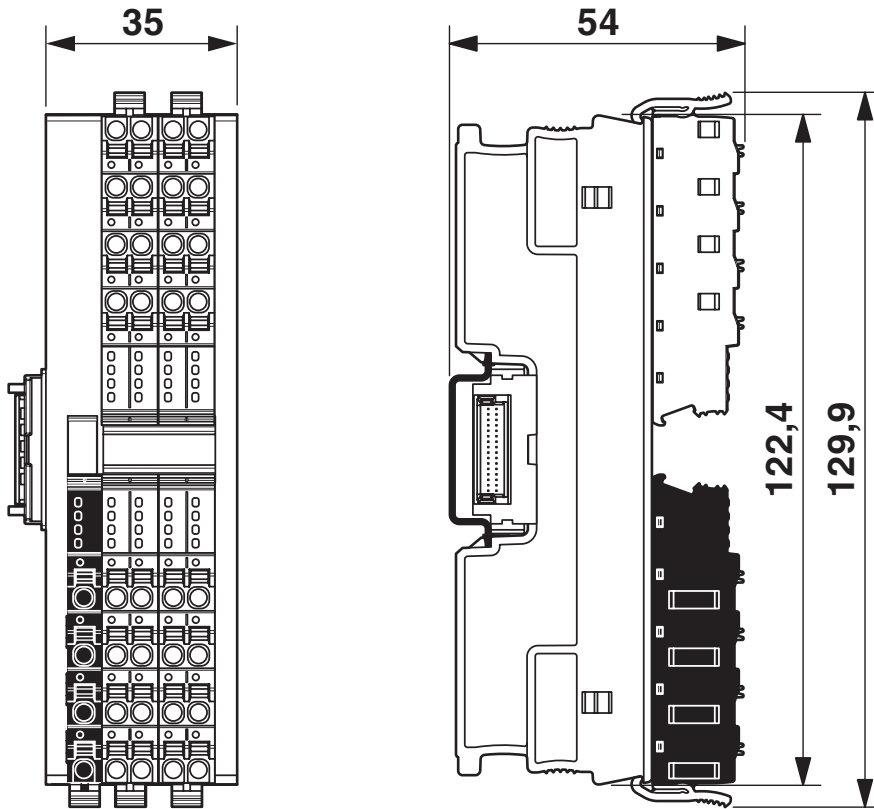


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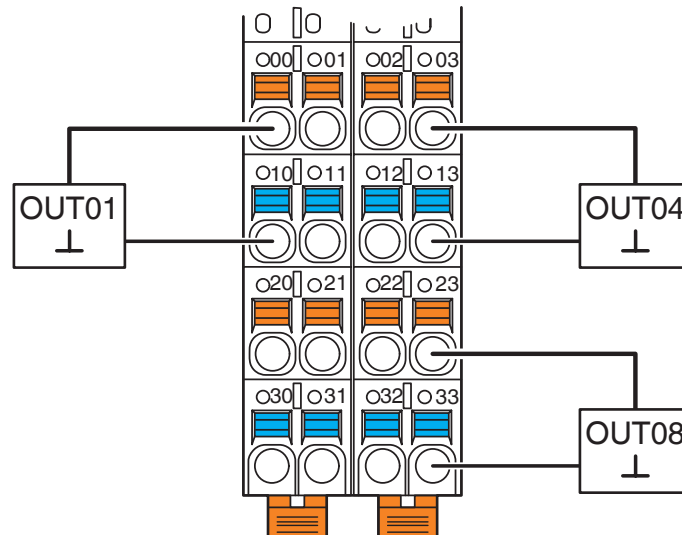
Drawings

Dimensional drawing



Dimensional drawing

Connection diagram

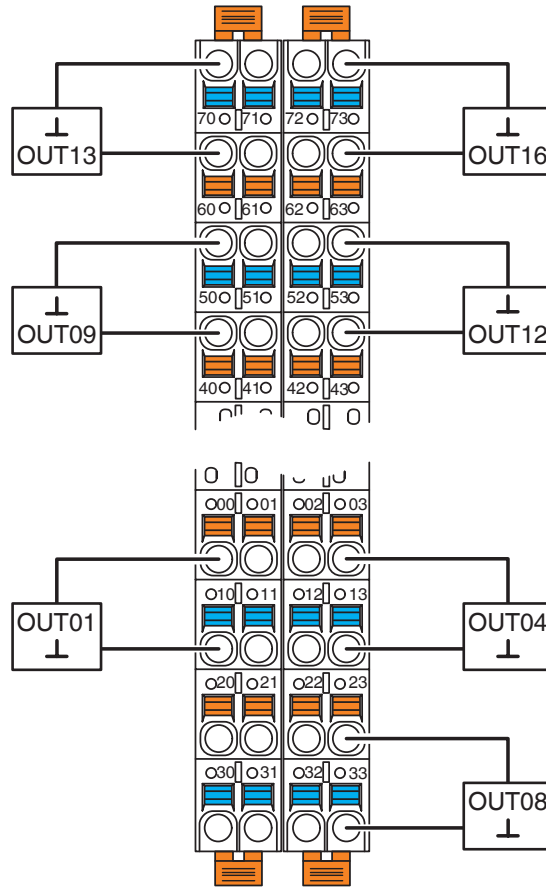


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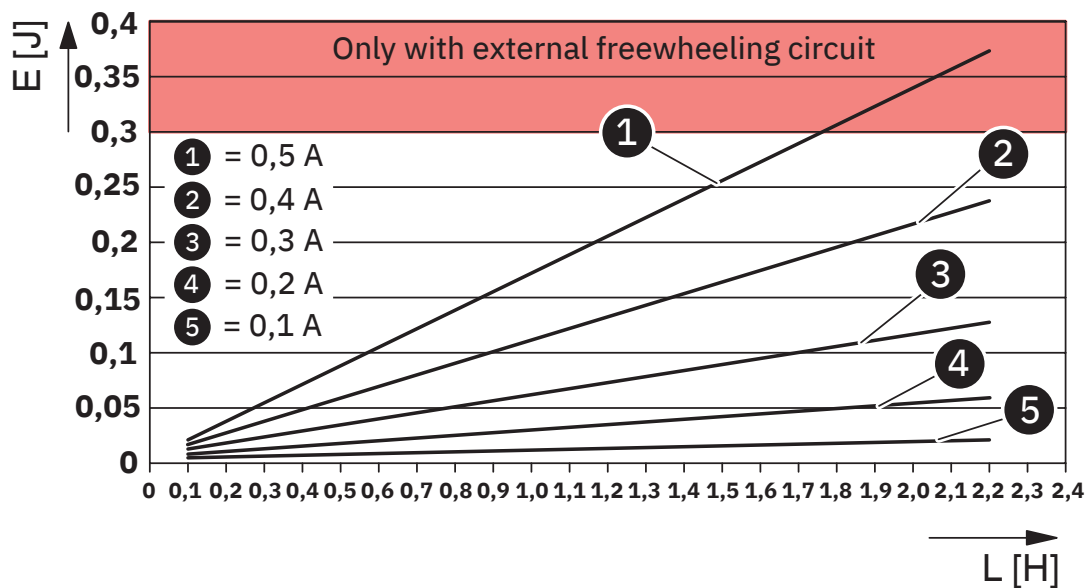
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Connection diagram



Connection in 2-conductor technology

Diagram



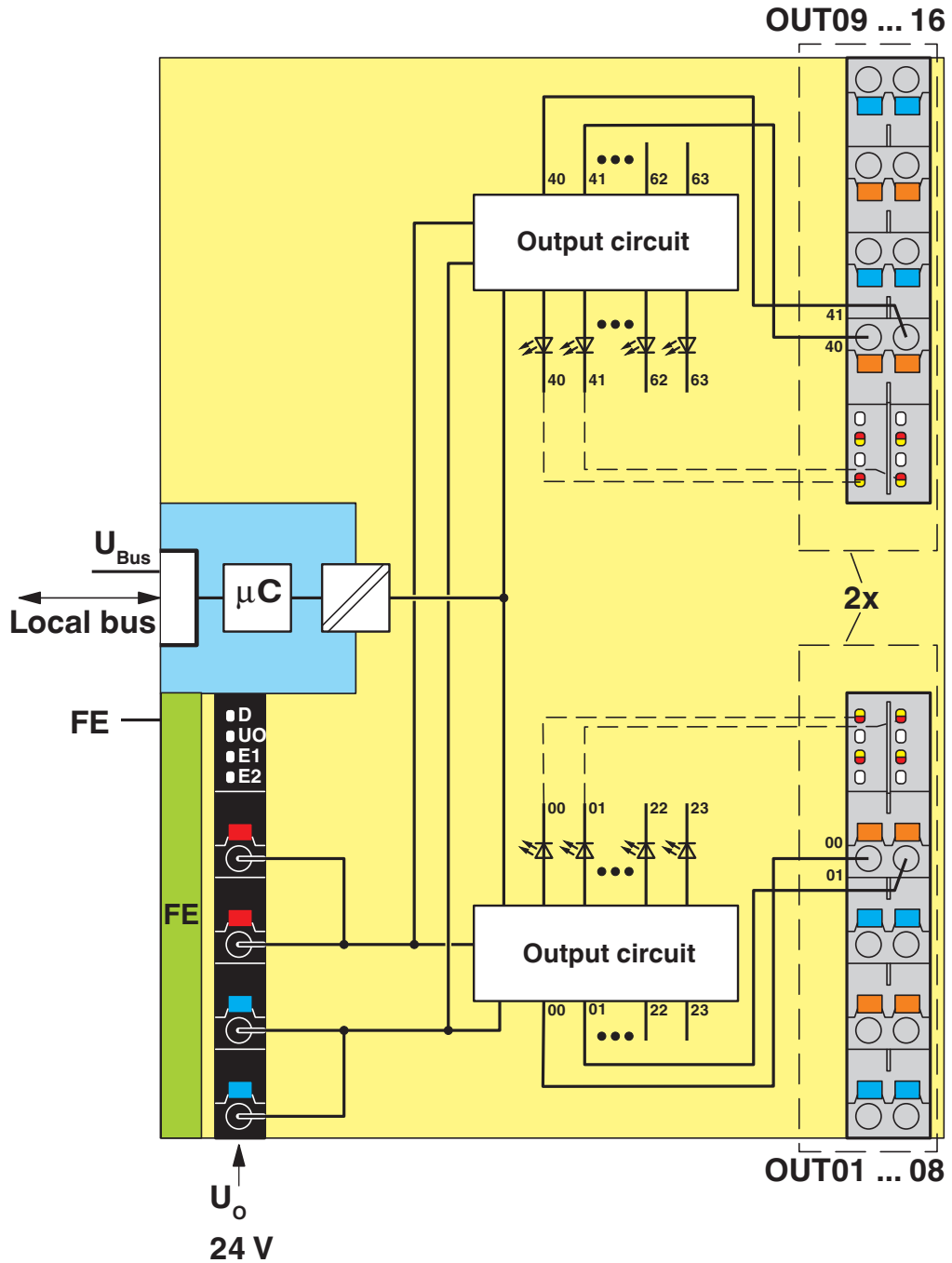
Maximum outputs power consumption when inductive loads are switched off

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Block diagram



Internal wiring of the terminal points

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1027904>



DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2480202TA-02



PRS

Approval ID: TE/1020/880590/21

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG001

ABS

Approval ID: 23-2449604-PDA



cULus Listed

Approval ID: E238705



Functional Safety

Approval ID: 968/EL 711.08/23

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Classifications

ECLASS

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

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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-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.) | Lead(CAS: 7439-92-1) |
| SCIP | 9a845936-c523-45a2-8fa0-0d1344b6a2d1 |

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