SIMATIC ET 200eco PN

The block I/O for harsh ambient conditions

Sales slides

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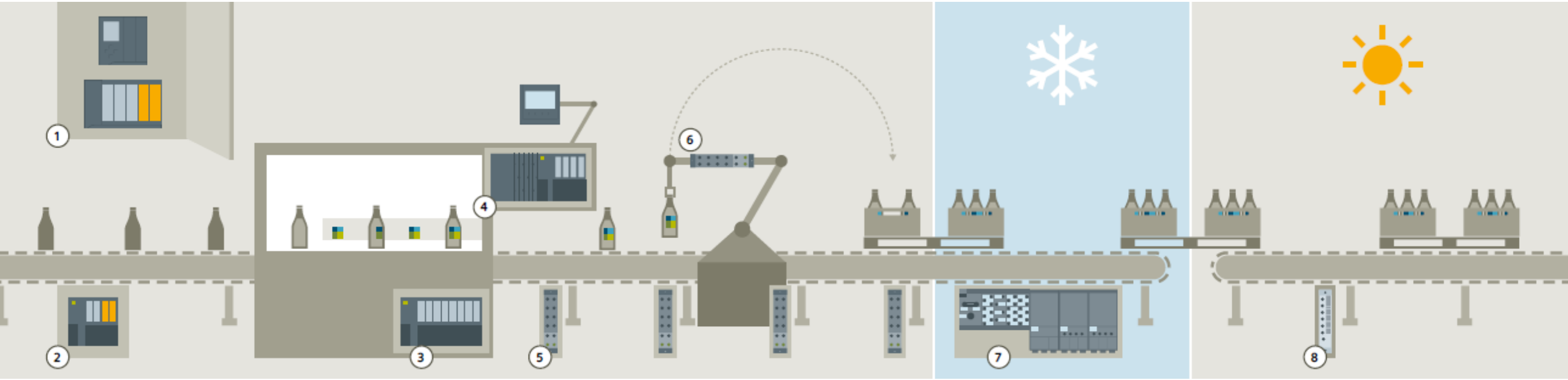
SIMATIC ET 200
Overview



1. S7-1500 I/O and ET 200MP:
   Directly connectable to an S7-1500

2nd/3rd ET 200SP:
   Compact I/O system for IP20

4. Distributed controller:
   Distributed intelligence

5. ET 200AL on ET 200SP
6. ET 200AL io-Link IO modules:
   The IO-link block io system for IP65/67
7. ET 200pro:
   The modular I/O system for IP 65/67

8th ET 200eco PN:
The I/O block for IP65/67

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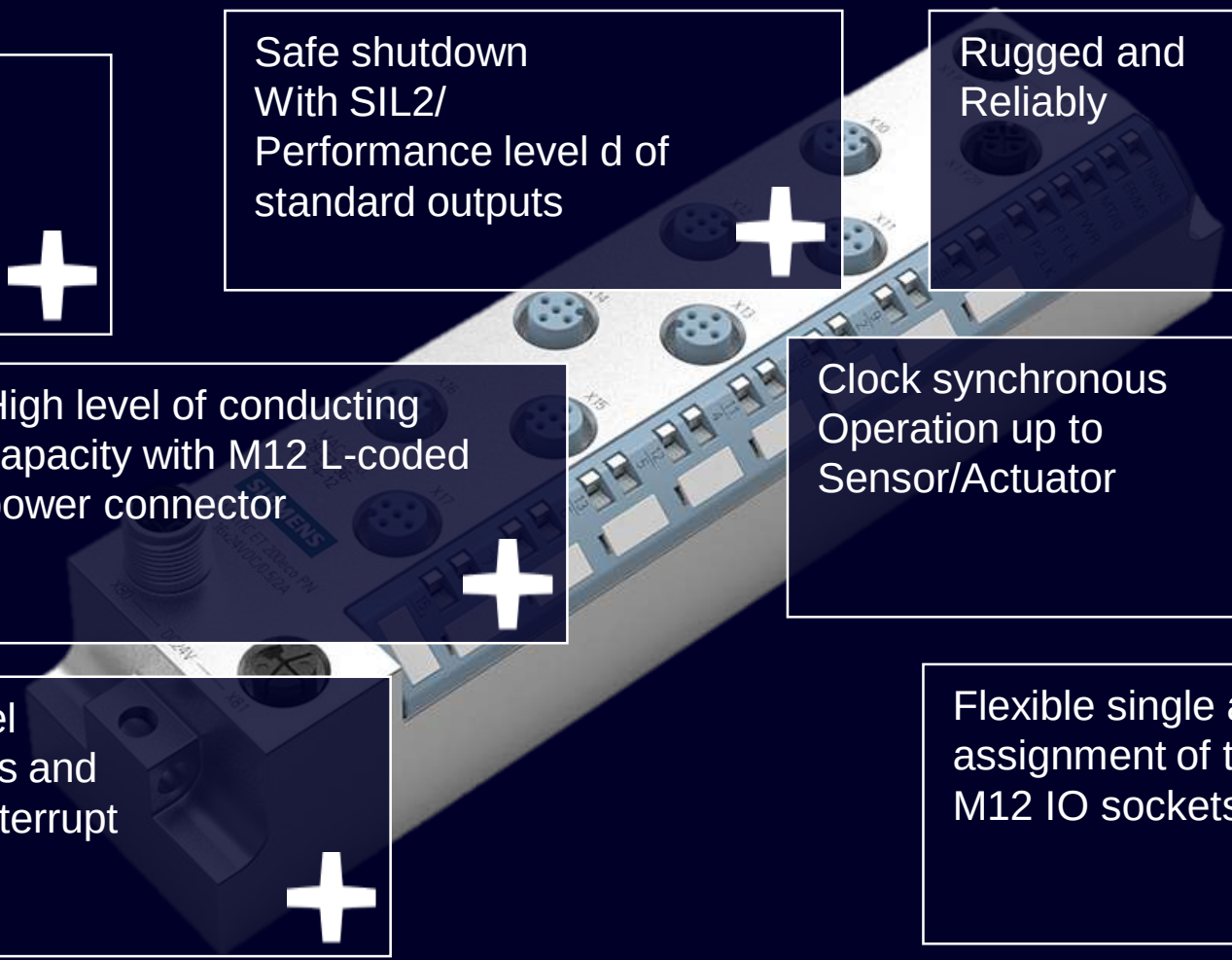
Block I/O in IP65/67

Can also be used in high-availability systems

Safe shutdown
With SIL2/
Performance level d of
standard outputs

Rugged and
Reliably



High level of conducting capacity with M12 L-coded power connector

Clock synchronous
Operation up to
Sensor/Actuator

By Channel
Diagnostics and
Process Interrupt

Flexible single and double assignment of the
M12 IO sockets

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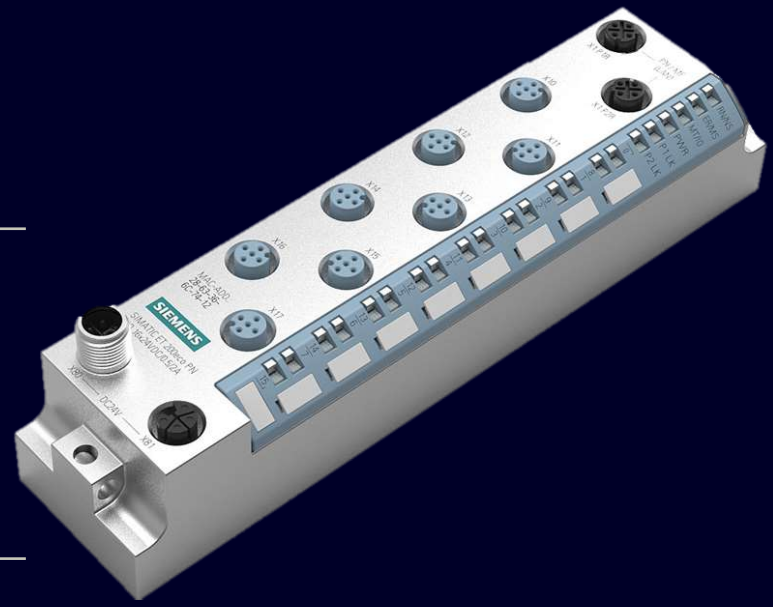
Comprehensive system features

Topic	Feature/function	Use
Communication	Connection to: • PROFINET • EthernetIP and Modbus TCP *(Available soon)*	I/O can be used consistently, regardless of the system Fieldbus
Connection Technology	• Power Cable with M12-L-coded connector up to 12a • Digital inputs/outputs with M12 connection technology.	• Simplification of the power supply concept through high current-carrying capacity of the plugs • Rugged connection System
Structure	• A housing design with 45mm width • Front and vertical mounting	• Uniform and space-saving installation • Flexible mounting options



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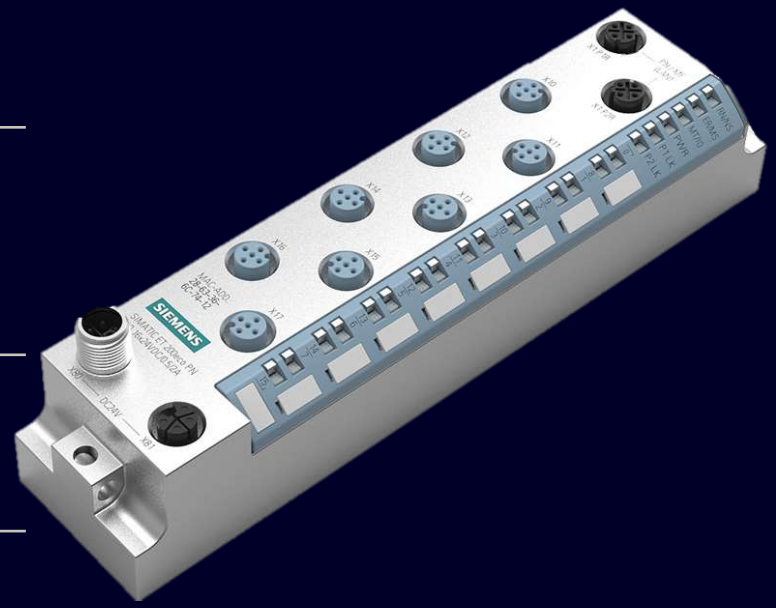
Mechanical Design

Topic		Feature/function		Use
Diagnostics	>	Channel-specific diagnostics	>	Early error detection and purposeful rectified troubleshooting
Clock-synchronous Operation	>	Deterministic connection of the inputs/outputs of the modules *	>	Deterministic response (e.g. electronic. CAM shaft) and optimized response time in the process
Special functions	>	Shared Device *, MSI/MSO	>	Access from several controllers of a plant to the iOS
High Availability	>	S2 Redundancy	>	Use in high-availability applications with R/h-CPU



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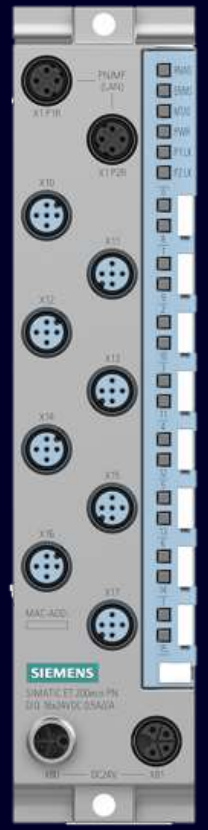
DI module

Feature/function		Use
Single and double assignment of the IO sockets	>	• 1 or 2 sensors per socket adjustable by parameter • Saving of Y-cable for individual wiring
Channel-specific diagnostics and hardware interrupt	>	Early response to wire break and short-circuit or process and plant states
Clock-synchronous operation	>	Deterministic response possible by means of clock-synchronous reading in of the input signals

DI 8x24VDC
M12-L 8XM12



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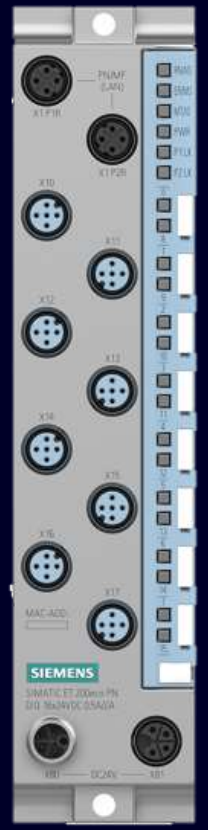
SIMATIC ET 200eco PN
DI module

Feature/function		Use
Double assignment of the IO sockets	>	High number of channels with minimum space requirement
Channel-specific diagnostics and hardware interrupt	>	Early response to wire break and short-circuit or process and plant states
Clock-synchronous operation	>	Deterministic response possible by means of clock-synchronous reading in of the input signals

DI 8x24VDC
M12-L 8XM12



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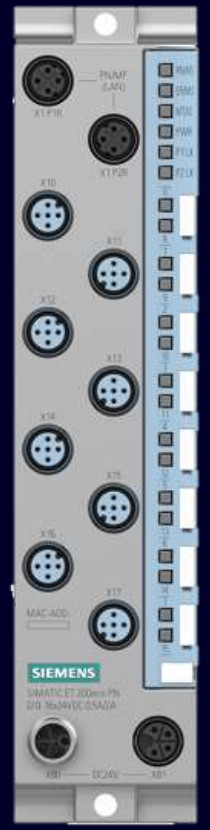
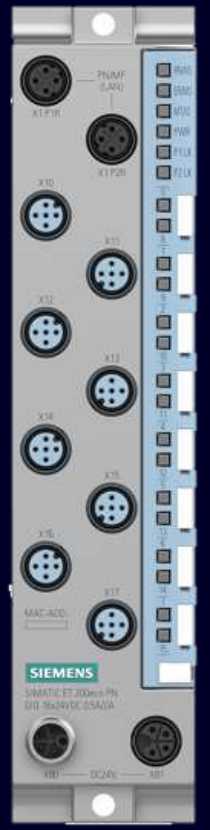
DQ Modules

Feature/function		Use
Single and double assignment of the IO sockets	>	• 1 or 2 Actuators per socket • Saving of Y-cable for individual wiring
Channel-specific diagnostics	>	Early response to wire break and short-circuit
Clock-synchronous operation	>	Deterministic response by means of clock-synchronous output of the output signals
Substitute value output	>	Process control, even in the event of CPU stop or communication failure

DQ 8x24VDC/0.5 A M12-L 8XM12



DQ 8x24VDC/2 A M12-L 8XM12



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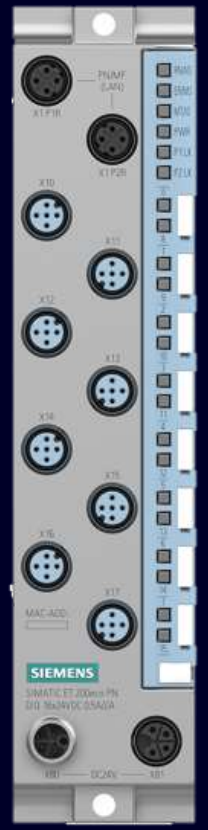
DIQ Module

Feature/function		Use
Freely configurable DIQ module	>	High flexibility of the channels when adapting to the application (e.g. also "pick-to-Light "function)
Double assignment of the IO sockets	>	High number of channels with minimum space requirement
Counter function *(Available soon)*	>	2/4 counters Integrated, Count frequency up to 2kHz, adjustable count direction
Channel-specific diagnostics	>	Early response to wire break and short-circuit
Substitute value output	>	Process control, even in the event of CPU stop or communication failure

DIQ 16x24VDC/0.5 A/2 A
M12-L 8XM12



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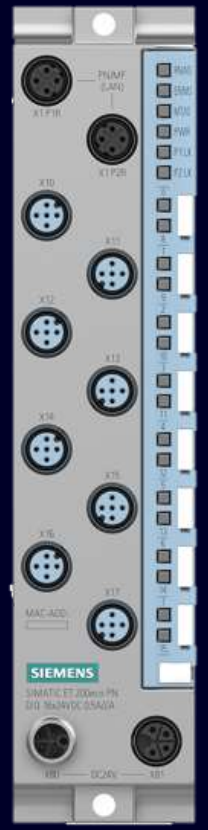
DIQ Module

Feature/function		Use
8 IO-Link ports	>	• 4-Port Class A: additional 4 di • 4-Port Class B: It is possible to connect actuators with higher power requirements
Configuration with and without S7-pct	>	• Port configuration and device parameterization with S7-pct or • Port configuration with GSD file
Master Backup	>	Support of master replacement by means of FB IOL_MASTER
Channel-specific diagnostics	>	Detection of port diagnostics and transmission of the Device diagnosis

CM 8x IO-link + DI 4x24VDC M12-L 8XM12



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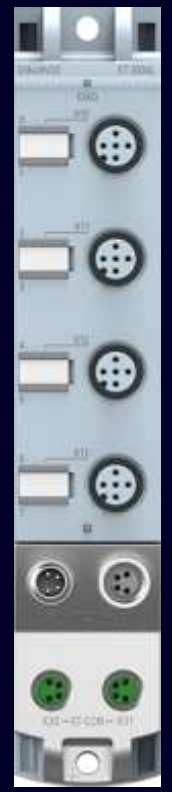
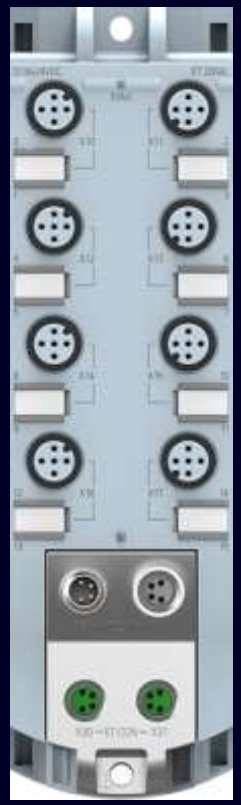
M12 connection System with 0,5 A

M12		Use
Field of application	>	Sensors, proximity switches and light barriers
Attachment options	>	• 4 or 8x M12 socket, 5-pin • 2 Sensors/Actuators Per conductor
Characteristics	>	• 8 Digital Inputs • 16 Digital Inputs • 4 parameterierbare Digital inputs/outputs and 4 digital outputs up to 0.5 a

DI 8x 24VDC



DI 16x 24VDC



DIQ 4 + DQ 4x 24VDC/0,5 A

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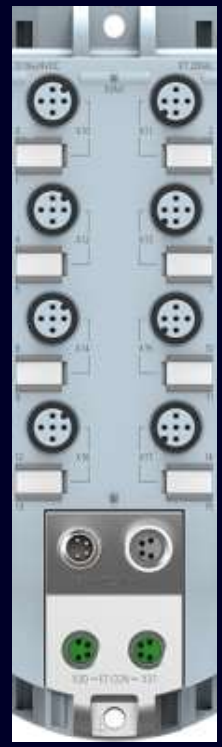
SIMATIC ET 200AL
M12 Connection System with 2 A

M12		Use
Field of application	>	Actuators with higher power input, e.g. hydraulic valves
Attachment options	>	• 8x M12 socket, 5-pin • 1 actuator per wire
Characteristics	>	• 8 Digital outputs • Outputs up to 2 A

DQ 8x 24VDC/2 A



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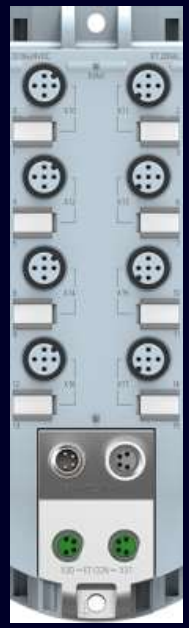
Digital Hybrid module with integrated counter

M12 Mixed Module		Use
Field of application	>	Freely configurable digital hybrid module with integrated counter function (e.g. "Pick-to-Light "function)
Attachment options	>	• 4x M12 socket, 5-pin • 2 Sensors/Actuators Per conductor
Characteristics	>	• 16 Digital inputs/outputs (Up to 0,5 A) • Channel-based Parameterization • Up to 4 counters (Count frequency up to 2kHz, Count direction parameterizable)

DIQ 16x24VDC/0,5 A



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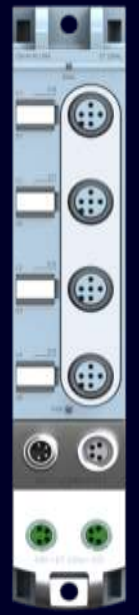
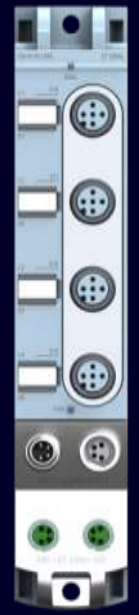
Analog input signals

Analog input		Use
Field of application	>	Wiring measuring sensors
Attachment options	>	• 4x M12 socket, 5-pin • 1 sensor Per socket via shielded cable
Characteristics	>	• 4 analog inputs for channel-based voltage/current/RTD • 4 analog inputs for channel-based RTD/TC

AI 4xU/I/RTD



AI 4xRTD/TC



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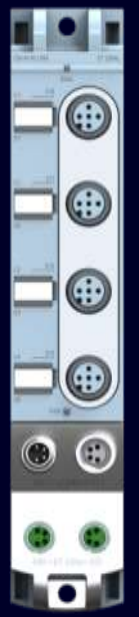
Analog output signals

Analog output		Use
Field of application	>	Output of analog voltage and current values
Attachment options	>	• 4x M12 socket, 5-pin • 1 Actuator Per conductor
Characteristics	>	• 4 analog outputs for outputting voltage/current • Channel-based Parameterization

AQ 4xU/I



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IO Link Master

IO-Link		Use
Field of application	>	Connection of intelligent sensors and actuators
Attachment options	>	• 4x M12 socket, 5-pin • 1 IO-link device per wire
Characteristics	>	• 4 IO-Link ports (V 1.1, port type B) • Additional load voltage for actuators

CM 4xIO-Link

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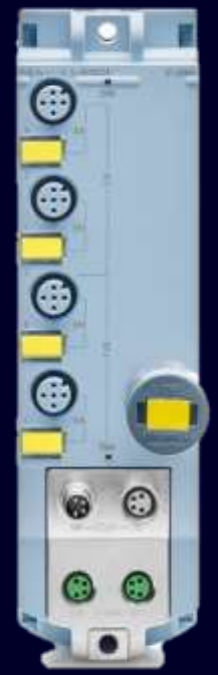
Fail-Safe Digital hybrid module

Fail-Safe Digital Input/Output		Use
Field of application	>	Sensors, position encoders, proximity switches and light barriers
Attachment options	>	• 4x M12 socket, 5-pin • 2x F-Di (2 channels per socket) • 2x F-DQ each up to 2a
Characteristics	>	• 4 Fail-Safe inputs • 2 Fail-safe outputs • Up to SIL3, PLe, Cat. 4
Diagnostics	>	Discrepancy, short-circuit, wire break, overtemperature, communication error

F-DI 4 + F-DQ 2x24VDC/2 A



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Added value

Flexible installation

- Flexible installation thanks to front or Side
- Low Space requirements (Module width 45 mm)
- Completely rugged metal housing for Use between -40 °C and + 60 °C

High functionality

- Configurable channels and terminal assignment
- Configurable input delay and clock-synchronous Operation
- Channel-specific diagnostics and hardware interrupts

Flexible integration into plant systems

- High current carrying capacity of the power supply connector (M12-L)
- Access from multiple controllers to the IO data by Shared Device and MSI/SO
- Use in high-availability systems with H-CPUs through S2 redundancy

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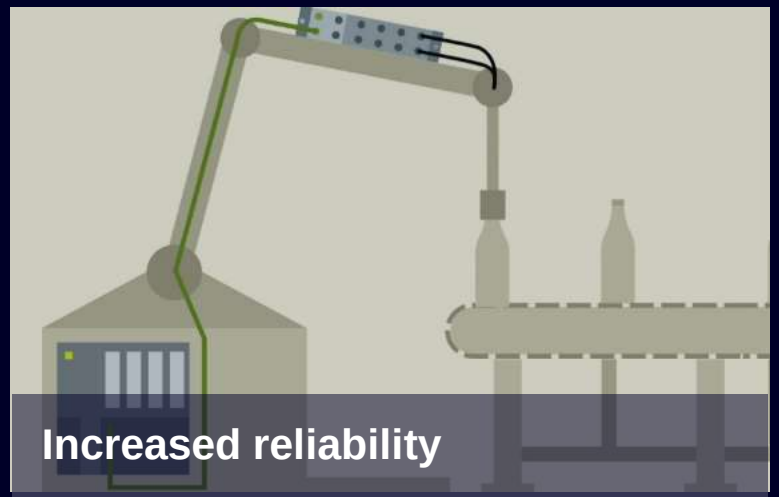
Added value IO-Link IO modules

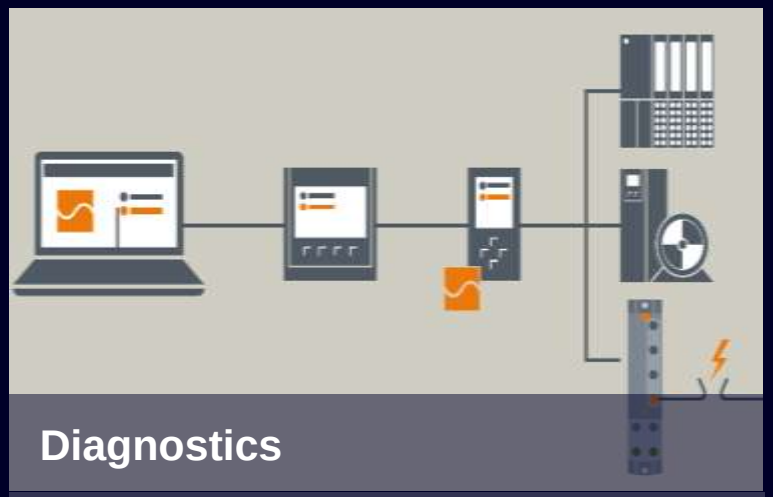


Increased reliability

- Mechanical loads up to 20g
- Electronic short-circuit protection
- Monitoring of supply voltages 1L + and 2L +

Safe shutdown

- Safe shutdown of actuators in accordance with SIL2/performance Level D
- Power supply 2L + can be switched off via safety relays



Diagnostics

- Uniform Display Concept
- Channel Status and channel error-LEDs
- Precise assignment of the IO Socket/LED/labeling Clip

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