



COMBINING TECHNOLOGIES
INTO HIGH-EFFICIENCY
SOLUTIONS

K15[®] PROGRAMMABLE LOGIC CONTROLLERS



2024

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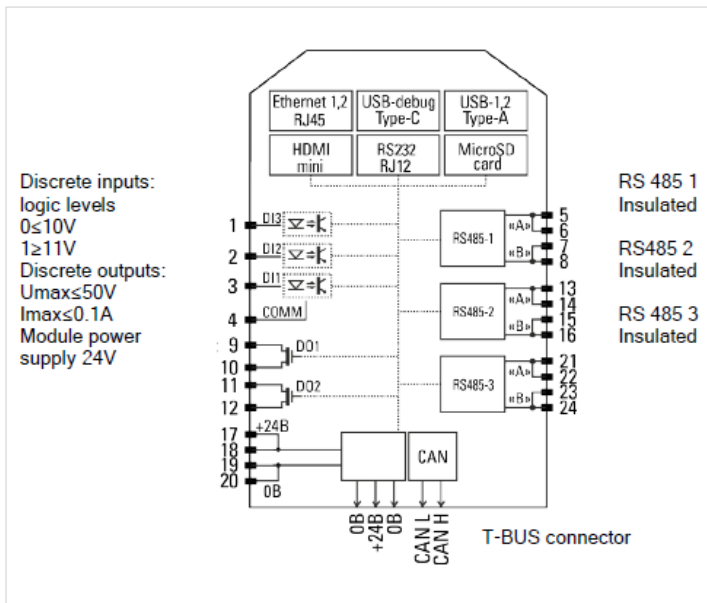
K15.CPU.LX1 PROCESSOR MODULE

DESCRIPTION

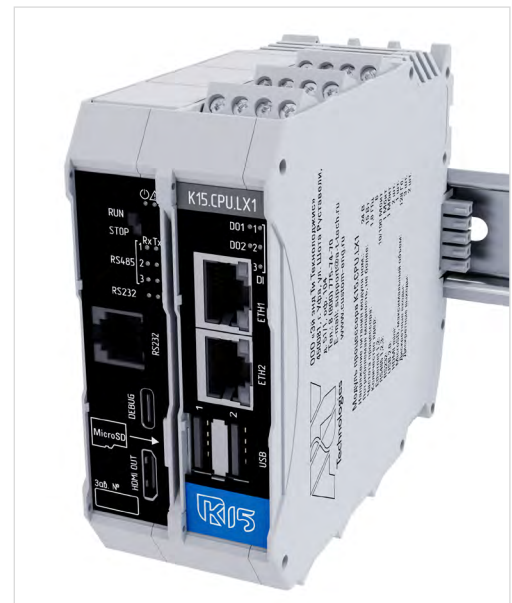
K15.CPU.LX1 is a high-performance logic controller programmable in Codesys. It is designed for a wide range of automation purposes in oil production, refining, energy, mechanical engineering and other industries. Scaling I/O is performed via K15 I/O modules connected to PLC with bus connectors linked to DIN rail.

KEY ADVANTAGES

- CoDeSys 3.5 is the main development environment
- PLC is programmable through Linux OS in C/C++, Python, etc.
- It is based on ARM Cortex-A72 MPCore 2-core processor and ARM Cortex-A53, 64-bit CPU, 1.8 GHz 4-core processor
- System flash drive up to 32 Gb (High-speed eMMC 5.1)
- Two Ethernet 10/100 Base-T ports
- Real-time clock
- Allows extra I/O modules



Connection Route



K15.CPU.LX1 Controller Appearance

TECHNICAL PARAMETERS

Electrical Parameters

Power supply voltage	24 V
Consumed power, not more than	15 W
Supply voltage safety	current limit, protection from incorrect polarity
Calendar, real-time clock	(non-volatile)
Built-in memory, eMMC 5.1	16/32 Gb
RAM, DDR3	4 Gb
Auxiliary non-volatile memory, FRAM	512 Kb
No. of discrete inputs	3 pcs
No. of discrete outputs	2 pcs

Communication Parameters

Port Ethernet 10/100 Base-T Protocol Modbus TCP, OPC UA	2 pcs
Isolated ports RS-485 Protocol Modbus RTU/ Modbus ASCII	3 pcs
Isolated port RS-232 Protocol Modbus RTU/ Modbus ASCII	1 pc
USB 2.0	2 pcs
USB debug	1 pc
HDMI	1 pc
Compatible with Micro SD, capacity, not more than	128 Gb
Interface for data exchange between CAN I/O modules	CANopen
Data transmission indicators RX, TX via RS- 485, RS232	8 pcs
Status Indicators (Status, Fault)	✓
Discrete signals status indicators	✓

Operation Conditions

Temperature	-20 to +60°C
Humidity	10 to 90%

Mechanical Properties

Dimensions (L x W x H)	108x45.2x114 mm
Weight	500 g
Ingress protection	IP20
Fastener	DIN-rail 35 mm

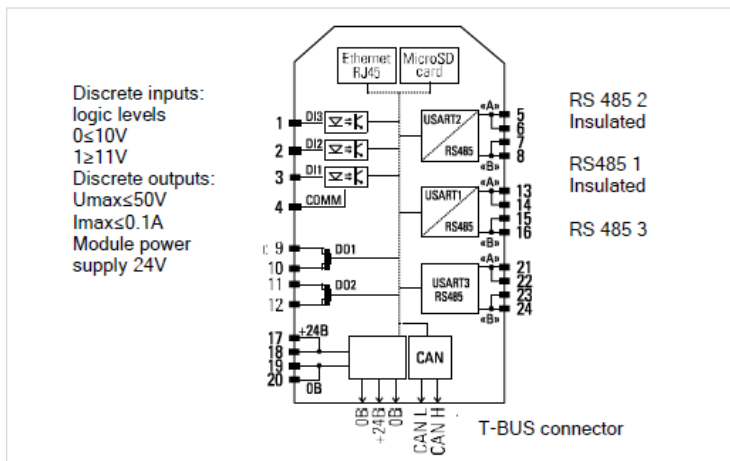
K15.CPU.H7 PROCESSOR MODULE

DESCRIPTION

K15.CPU.H7 module is designed to build local systems of low and medium complexity. They can be used for distributed systems in the oil industry, agriculture, utility management, energy and other industries.

KEY ADVANTAGES

- It is based on ARM® 32-bit, Cortex®-M7, 480 MHz processor
- Web-interface
- MicroSD compatible
- Real-time clock
- Allows extra I/O modules



Connection Route



K15.CPU.H7 Controller Appearance

TECHNICAL PARAMETERS

Electrical Parameters

Power supply voltage	24 V ±20%
Consumed power, not more than	5 W
Input voltage protection	current limit
No. of discrete outputs	2 pcs
No. of discrete inputs	3 pcs

Communication Parameters

Ethernet 10/100 Base-T Port	1 pc
No. of isolated RS-485 ports	2 pcs
No. of non-isolated RS-485 ports	1 pc
Compatible exchange protocols	ModBus RTU/TCP
Interface for data exchange with modules	CAN
Indicators of data transmission via RS-485	3 pcs
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

Mechanical Properties

Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 g
Ingress protection	IP20
Fastener	DIN-rail 35 mm

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

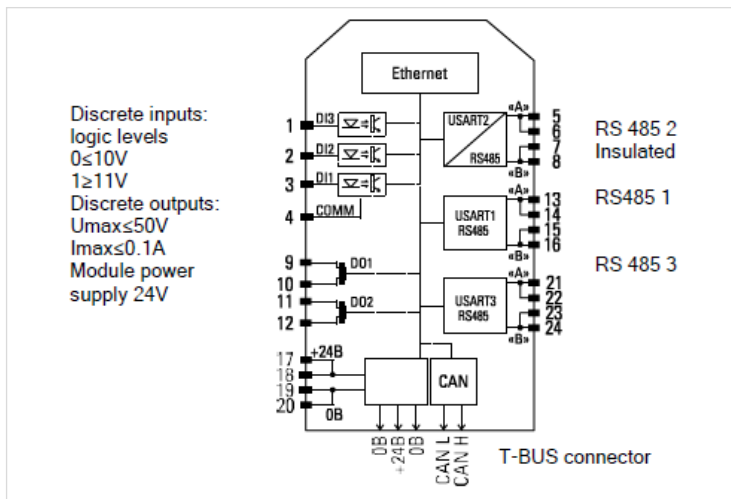
K15.CPU.F4 PROCESSOR MODULE

DESCRIPTION

K15.CPU.F4 module is designed for constructing local systems of low complexity in the oil industry, agriculture, utility management, energy and other industries.

KEY ADVANTAGES

- It is based on ARM® 32-bit, Cortex®-M7, 168 MHz processor
- Web-interface
- Real-time clock
- Allows extra I/O modules



Connection Route



K15.CPU.F4 Controller Appearance

TECHNICAL PARAMETERS

Electrical Parameters	
Power supply voltage	24 V ±20%
Consumed power, not more than	5 W
Input voltage protection	current limit
No. of discrete outputs	2 pcs
No. of discrete inputs	3 pcs

Communication Parameters	
Ethernet 10/100 Base-T Port	1 шт.
No. of isolated RS-485 ports	1 pc
No. of non-isolated RS-485 ports	2 pcs
Compatible exchange protocols	ModBus RTU/TCP
Interface for data exchange with modules	CAN
Indicators of data transmission via RS-485	✓
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

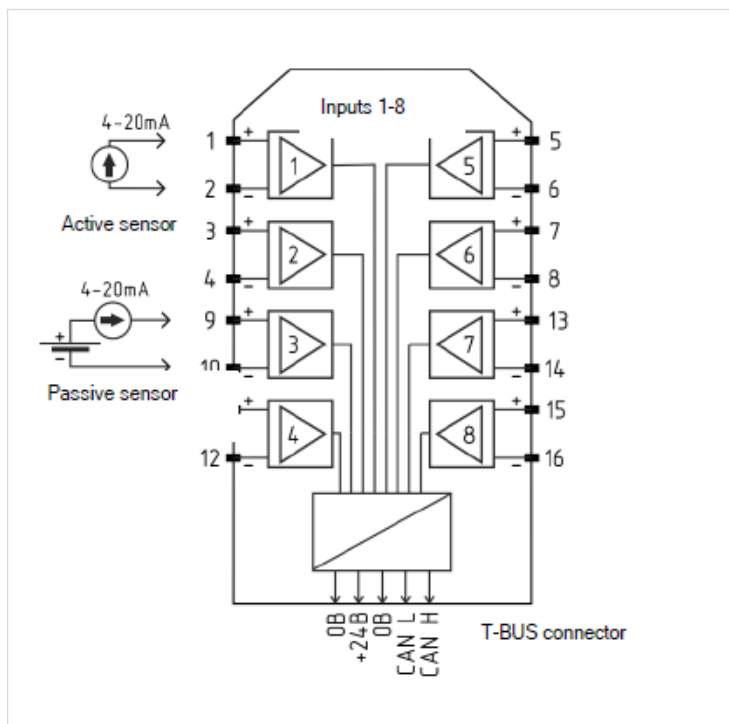
Mechanical Properties	
Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

Operation Conditions	
Temperature	-40 to +60°C
Humidity	10 to 90%

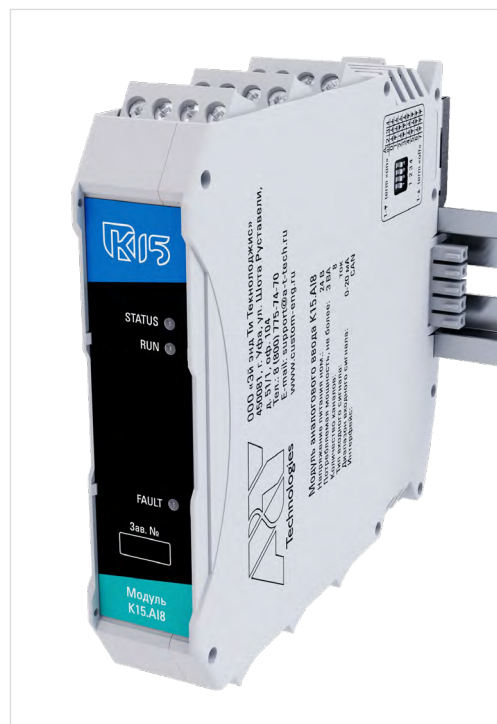
K15.AI8. ANALOGUE INPUT MODULE

DESCRIPTION

K15.AI8 analogue input module is used together with a processor module to increase the number of analogue input channels. Input signal range 0 ... 20 mA.



Connection Route



K15.AI8 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Input galvanic insulation	group insulation
Output circuit protective functions	short circuit

Electrical Parameters

Power supply voltage	24 V \pm 20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of analogue inputs	8 pcs
Input signal range	0-20 mA
Basic percentage error limit	0.1 %
Input signal type	unified

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

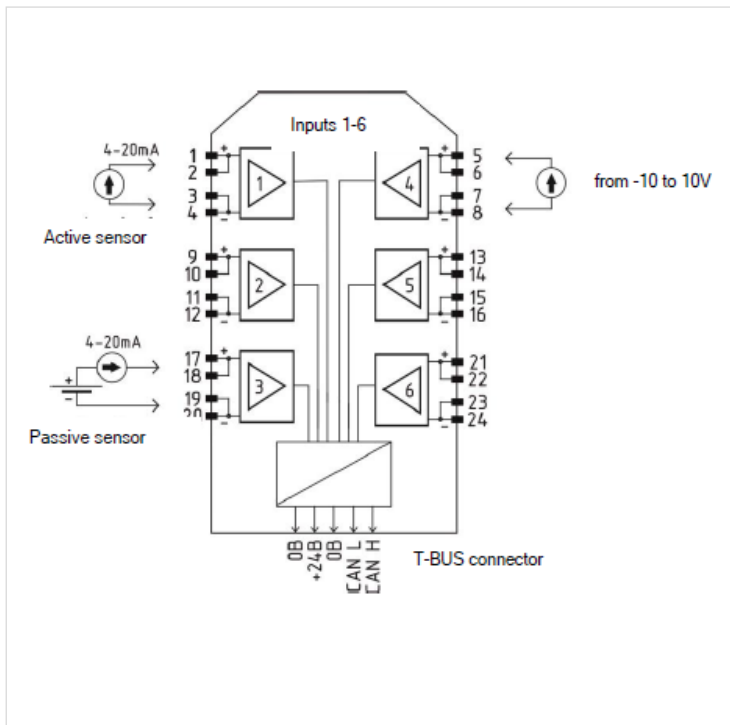
Mechanical Properties

Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.AI6. ANALOGUE INPUT MODULE

DESCRIPTION

K15.AI6 analogue input module is used together with a processor module to increase the number of analogue input channels. Input signal range -20 .. +20 mA/-10 ... +10 V.



Connection Route



K15.AI6 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Input galvanic insulation	group insulation
Output circuit protective functions	short circuit
Electrical Parameters	
Power supply voltage	24 V ±20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of analogue inputs	6 pcs
Input signal type	current, voltage
Input current signal range	minus 20 to plus 20 mA
Basic percentage error limit	0.1 %
Input voltage range	minus 10 to plus 10 V
Basic percentage error limit	0.05 %

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

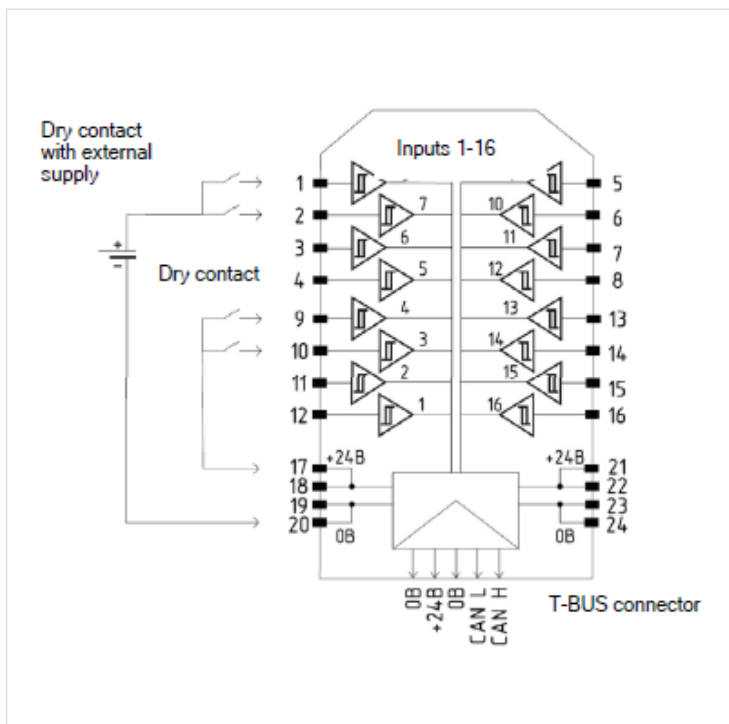
Mechanical Properties

Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.DI16 DISCRETE INPUT MODULE

DESCRIPTION

K15.DI16 discrete input module is used together with a processor module to increase the number of discrete input channels.



Connection Route



K15.DI16 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Input galvanic insulation	group insulation
Input noise filter	0-10 ms

Electrical Parameters

Power supply voltage	24 V \pm 20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of discrete inputs	16 pcs
Input signal range	0-36 V
No. of channels with max input signal frequency 2000 Hz	8 pcs
No. of channels with max input signal frequency 8000 Hz	8 pcs

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

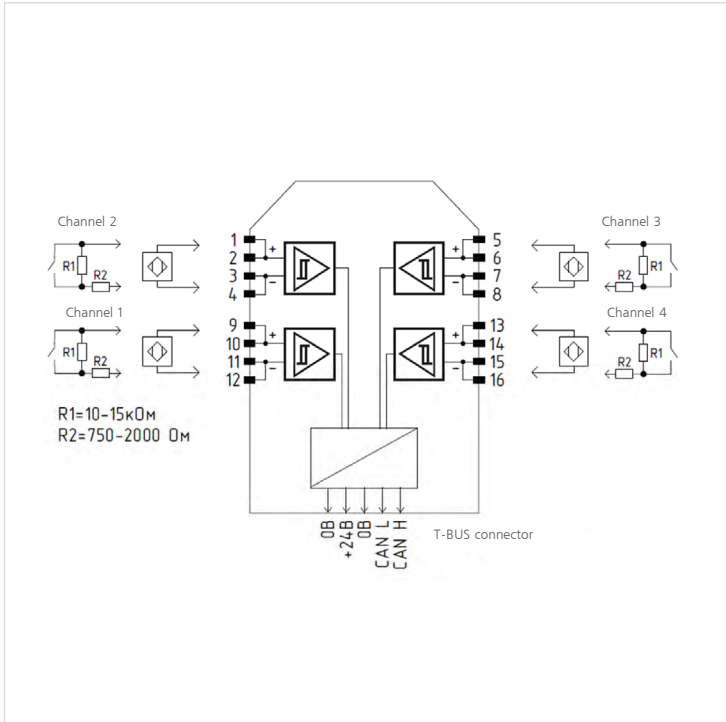
Mechanical Properties

Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.DI4.NAMUR DISCRETE INPUT MODULE

DESCRIPTION

K15.DI4.NAMUR discrete input module is used together with a processor module to increase the number of discrete input channels and diagnose the status of the discrete sensors, circuit supervision discrete sensors and NAMUR output signal discrete sensors.



Connection Route



K15.DI4.NAMUR Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Input galvanic insulation	group insulation

Electrical Parameters	
Power supply voltage	24 V ±20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of discrete inputs	4 pcs
Input power supply	8.2 V
Input signal type - Namur	EN 60947-5-6

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

Mechanical Properties

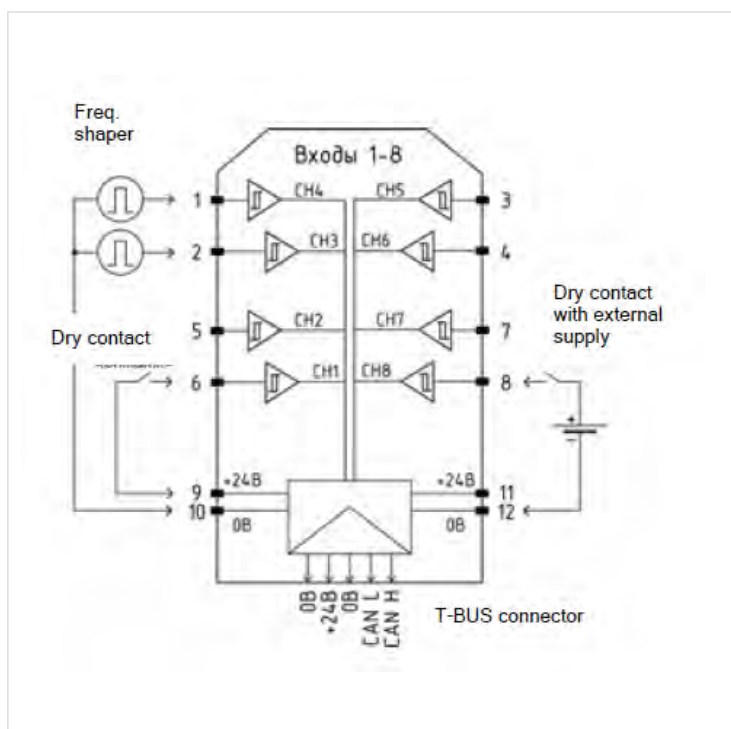
Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

DISCRETE PULSE INPUT MODULE

K15.FDI8

DESCRIPTION

K15.FDI8 discrete pulse input module is designed to collect data from built-in discrete outputs and transmit the readings via CAN bus. Inputs can operate to count pulses and to measure frequency.



Connection Route



K15.FDI8 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Galvanic insulation	group insulation
Input noise filter	✓
Electrical Parameters	
Power supply voltage	24 V ±20%
Consumed power, not more than	2 W
No. of discrete inputs	8 pcs
Type of compatible signals	voltage pulses, dry contact with external power supply
Input signal range	0-35 V
Input signal max frequency	12,000 Hz
Input signal max current	2.4 mA

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

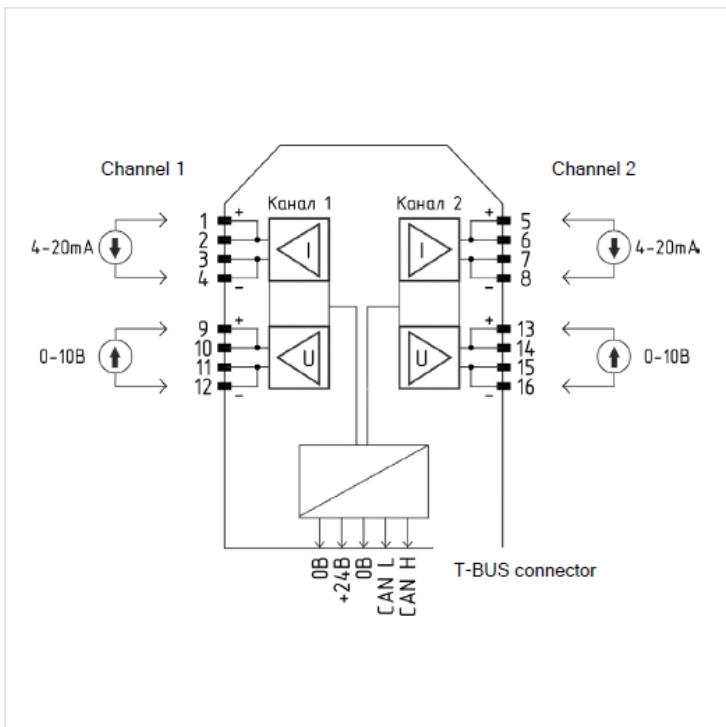
Mechanical Properties

Dimensions (L x W x H)	108x12.5x114 mm
Weight	300 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.AO2 ANALOGUE OUTPUT MODULE

DESCRIPTION

K15.AO2 analogue output module is used together with a processor module to increase the number of analogue output channels. Active output signal 0 ... +20 mA/-10 ... +10 V.



Connection Route



K15.AO2 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Output galvanic insulation	group insulation
DAC bitness	16

Electrical Parameters	
Power supply voltage	24 V ±20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of analogue outputs	2 pcs
Output signal type	current, voltage
Output current signal range	0 to 20 mA
Basic percentage error limit for 4-20 mA	0.1 %
Output voltage range 0 to 10 V	minus 10 to plus 10 V
Basic percentage error limit for 0-10 V	0.05 %

Communication Parameters	
Communication interface	CAN
Status indicators (Status, Run, Fault)	✓

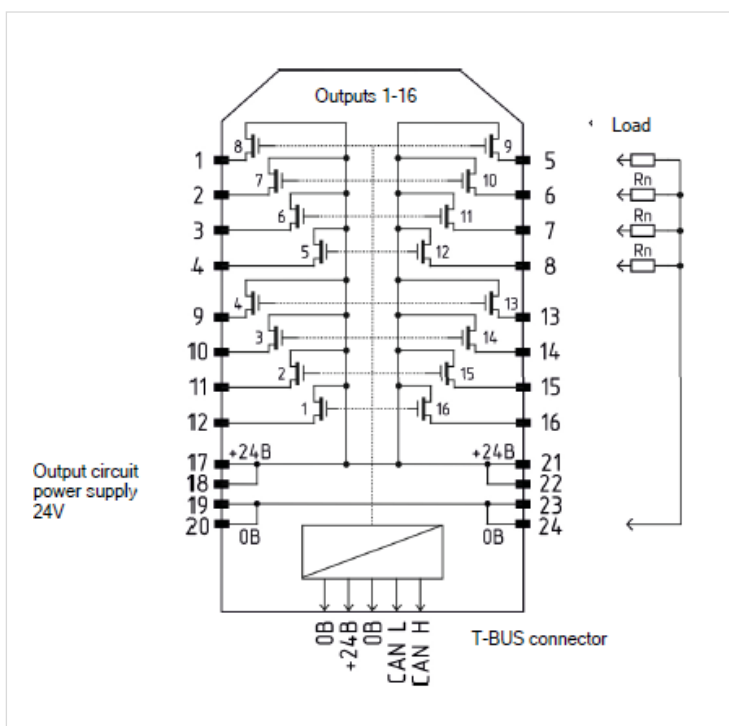
Operation Conditions	
Temperature	-40 to +60°C
Humidity	10 to 90%

Mechanical Properties	
Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.DO16 DISCRETE OUTPUT MODULE

DESCRIPTION

K15.DO16 discrete output module is used together with a processor module to increase the number of discrete output channels. Discrete outputs are represented as transistor keys.



Connection Route



K15.DO16 Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Input galvanic insulation	group insulation
Output circuit protective functions	short circuit, overheating
Discrete output type	integral keys in FETs

Electrical Parameters

Power supply voltage	24 V ±20%
Consumed power, not more than	3 W
Input voltage protection	from reverse polarity
No. of discrete outputs	16 pcs
DC max commutation voltage	50 V
No. of channels with max commutation frequency 25,000 Hz	4 pcs
No. of channels with max commutation frequency 50,000 Hz	4 pcs

Communication Parameters

Communication interface	CAN
Status indicators (Status, Run, Fault)	✓
Discrete signals status indicators	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

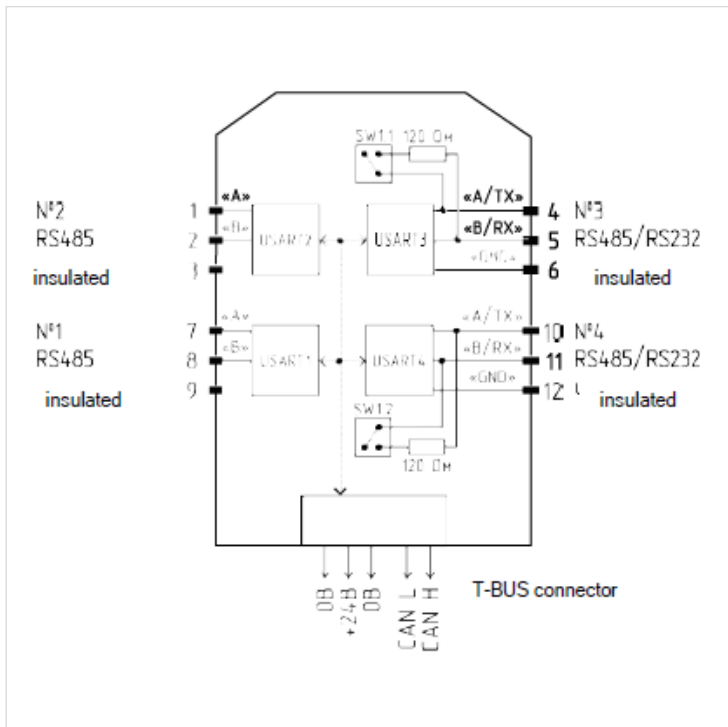
Mechanical Properties

Dimensions (L x W x H)	107x22.5x136 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

SERIAL INTERFACE MODULE K15.SCM

DESCRIPTION

K15.SCM serial interface module is used together with processor modules to increase the number of serial interfaces RS-485 and/or RS-232.



Connection Route



K15.SCM Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one CAN bus	8 pcs
Galvanic insulation	Individual
Connectible matching resistors 120 Ohm on the face panel	2 pcs

Communication Parameters	
No. of RS-485 channels	2 pcs
No. of combined RS-485/RS-232 channels	2 pcs
Maximum rate of exchange through RS-485 interface, bit/sec	115,200
Exchange protocol	Modbus RTU
RS485 reception / transmission indication	✓
Interface of communication with processor module	CAN
Status indicators (Status, Run, Fault)	✓

Electrical Parameters

Power supply voltage	24 V ±20%
Consumed power, not more than	3 W

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

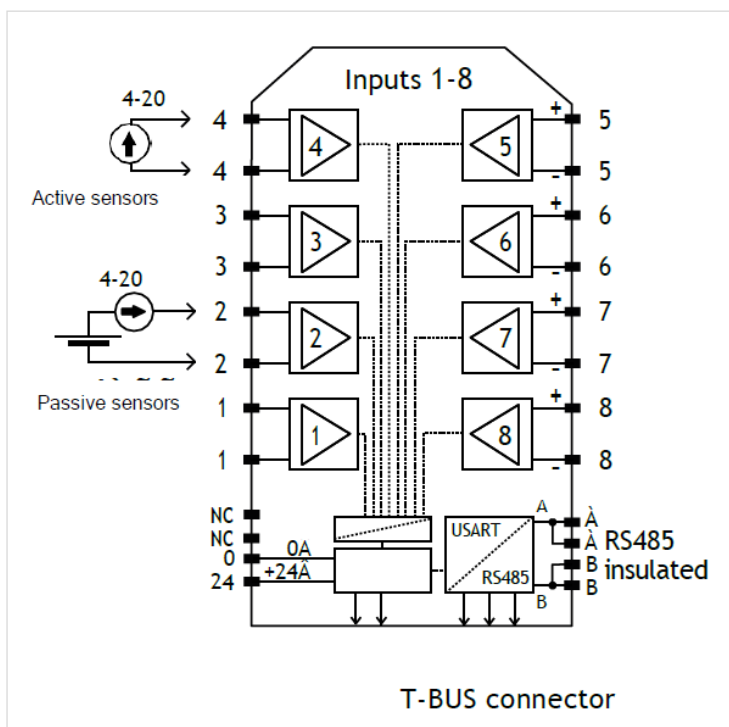
Mechanical Properties

Dimensions (L x W x H)	108x17.5x114 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.AI8.RS ANALOGUE INPUT MODULE

DESCRIPTION

K15.AI8.RS analogue input module of RS series is designed for metering current within 4-20 mA range and transferring information via RS-485 interface. It can be used as an independent device without a processor module.



Connection Route



K15.AI8.RS Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one RS-485 bus	128
Channel status bicolour indication	✓
Reset to default button	✓
Software plug-in matching resistor 120 Ohm	✓
Galvanic insulation	Group insulation
Protection	From overload, current overload, reverse polarity by power input, interface, etc.

Communication Parameters

Communication interface	RS-485
Exchange protocol	Modbus RTU
RS-485 reception / transmission indication	✓
Status indicators (voltage, fault, matching resistor)	✓
Analogue channel status indicators	✓

Electrical Parameters

Module power supply voltage range	9 to 48 V
Consumed power, not more than	1.5 W
No. of analogue inputs	8 pcs
Input signal type	current
Conversion range	4-20 mA
Limits of permissible main error	0.1 %

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

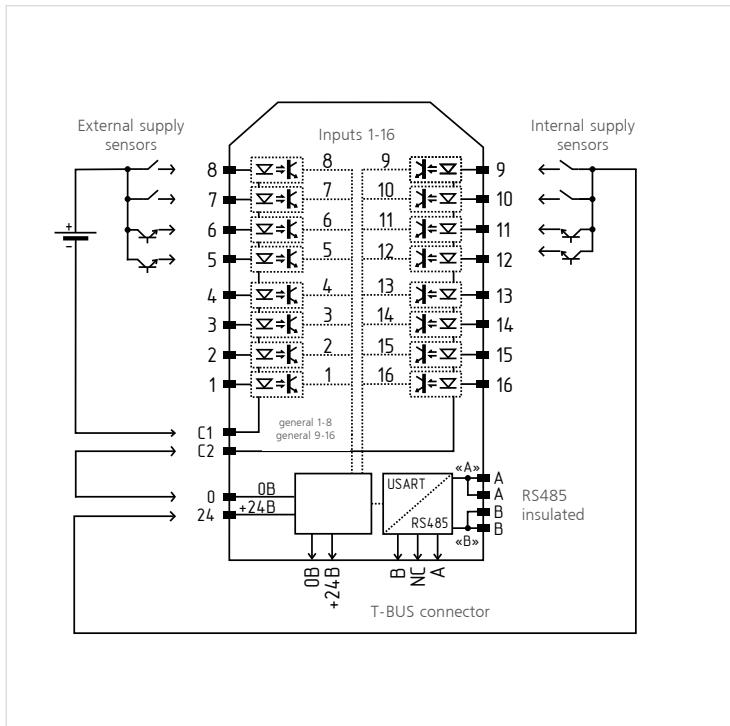
Mechanical Properties

Dimensions (L x W x H)	108x22.5x114 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

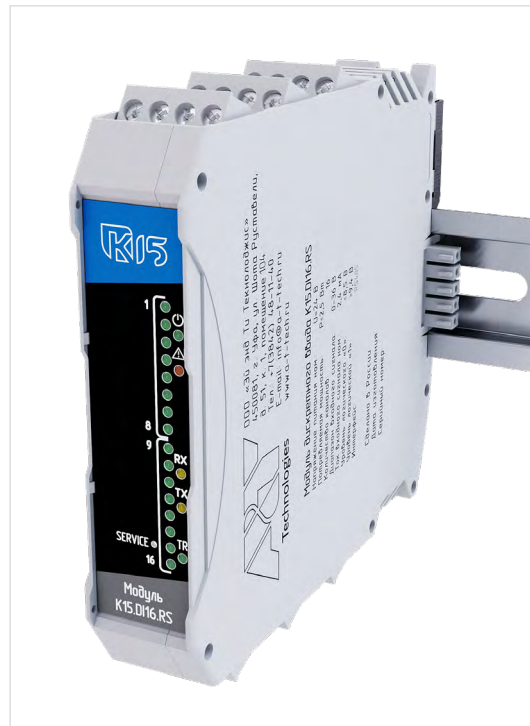
K15.DI16.RS DISCRETE INPUT MODULE

DESCRIPTION

K15.DI16.RS discrete input module of RS series is designed to receive discrete signals and transfer information via RS-485 protocol. It can be used as an independent device without a processor module.



Connection Route



K15.DI16.RS Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one RS-485 bus	128
Channel status indication	✓
Reset to default button	✓
Software plug-in matching resistor 120 Ohm	✓
Galvanic insulation	Group, 2 groups, 8 channels each
Protection	From overload, current overload, reverse polarity by power input, interface, etc.

Communication Parameters

Communication interface	RS-485
Exchange protocol	Modbus RTU
RS-485 reception / transmission indication	✓
Status indicators (voltage, fault, matching resistor)	✓
Channel status indicators	✓

Electrical Parameters

Module power supply voltage range	9 to 48 V
Consumed power, not more than	1.5 W
No. of discrete inputs	16 pcs
Connectible sensor type	electronic key, dry contact
Input signal range	0 to 60 V

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

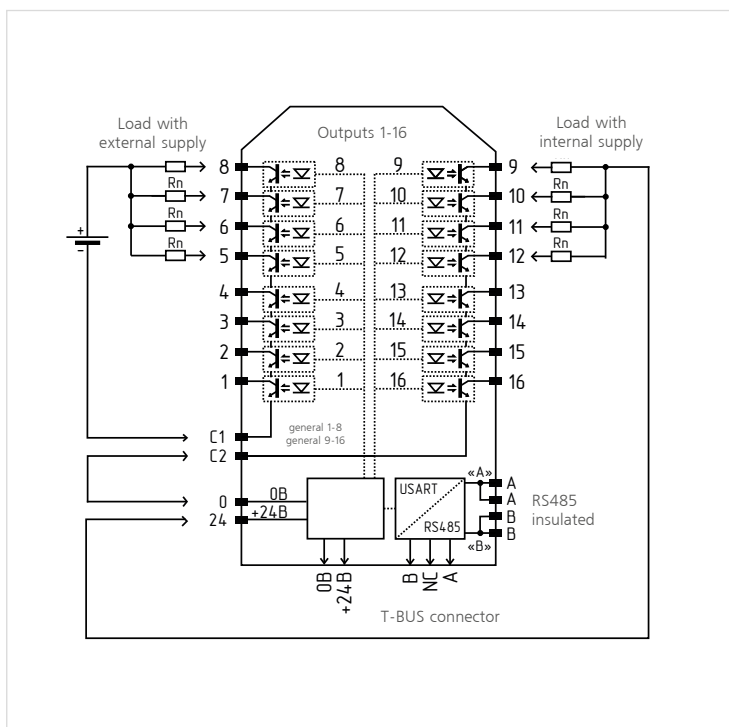
Mechanical Properties

Dimensions (L x W x H)	108x22.5x114 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm

K15.DO16.RS DISCRETE OUTPUT MODULE

DESCRIPTION

K15.DO16.RS discrete output module of RS series with RS-485 communication interface is designed to control consumers and discretely controlled mechanisms. It can be used as an independent device without a processor module.



Connection Route



K15.DO16.RS Module Appearance

TECHNICAL PARAMETERS

Max. No. of connectible modules per one RS-485 bus	128
Channel status indication	✓
Reset to default button	✓
Software plug-in matching resistor 120 Ohm	✓
Galvanic insulation	Group, 2 groups, 8 channels each
Protection	From overload, current overload, reverse polarity by power input, interface, etc.
Communication Parameters	
Communication interface	RS-485
Exchange protocol	Modbus RTU
RS-485 reception / transmission indication	✓
Status indicators (voltage, fault, matching resistor)	✓
Channel status indicators	✓

Electric Parameters

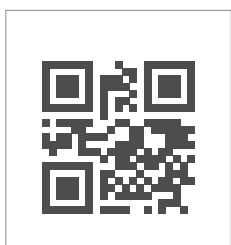
Module power supply voltage range	9 to 48 V
Consumed power, not more than	1 W
No. of discrete inputs	16 pcs
Connectible sensor type	open collector
Max DC switching voltage	60 V
Max switching current	0.15 A
Input status indication	✓

Operation Conditions

Temperature	-40 to +60°C
Humidity	10 to 90%

Mechanical Properties

Dimensions (L x W x H)	108x22.5x114 mm
Weight	400 G
Ingress protection	IP20
Fastener	DIN-rail 35 mm



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