



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

ServoStep MIS is a series of integrated stepper motors with servo control (closed-loop) and up to 3000 RPM.

It consists of NEMA 17..23..34..43 size motors with holding torques from 0.36 Nm up to 25 Nm. All motors are programmable and have 8 I/O points (each can be DI or DO or AI).

Options include:

- incremental (semi-absolute) encoder*). absolute multiturn encoder
- brake module*)
- radial or axial*) connectors
- CANopen
- Ethernet interface w/built-in switch for easy daisy-chaining and all protocols (Profinet. EtherNet/IP. EtherCAT. Sercos. ModbusTCP/UDP. Powerlink).
- Wireless versions are also possible: WLAN or BlueTooth.
- Special shaft versions include double shaft and hollow shaft. contact JVL to learn which combinations are possible.
- Higher IP versions are also available. *) Depending of other options



General information

| | | | |
|-------------------------------------|--|----------------------------------|--|
| Description | Int.Step 12-72VDC, RS485, AbsC-L, 4xM12. 17pF:8xDIO/AI+RS422+RS485 8pF:RS485 5pF:485, High Resolution: 409.600 step/rev. ±0.01 RPM, Programmable (incl. current, position & velocity), C-L + Abs Multiturn Enc. 4096 CPR ± 5242 Revs, ø6.35x20 mm Round, Shaft: IP42, Motor: IP42, 56.4x103 mm Holding Torque: 0.97 Nm Radial Connector 12-72 VDC Mechanical Power: 177 W, Isolated from earth | | |
| Manufacture | JVL | Motor type | Integrated Stepper - Rotating |
| Motor resolution | 409600 | Encoder type | H4: H2 incr+absSingleturn and H3 serial/absMultiturn |
| Integrated PLC | Yes | PLC no. of DI/DO/AI | 8 |
| Closed loop | Yes | STO connector | No |
| Integrated gear | No | Gear ratio | |
| Brake | No | Speed [Rpm] | 3000.00 |
| Connectivity: Without module | RS485 | Power Peak [W] | 177.00 |
| Flange Type Front | | Protection House/Shaft | |
| Shaft size - Front [mm] | 6.35 mm | | |
| Running torque [Nm] | 0.97 | Rated Winding current [A] | 6.0 |
| Main supply [V] | 12-72 | Voltage type - Main | DC |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

General information

| | | | |
|---------------------------------------|------|----------------------------|------|
| Control voltage (CVI/O+) [VDC] | 7-28 | Holding torque [Nm] | 0.97 |
|---------------------------------------|------|----------------------------|------|

| | |
|---------------------|----|
| Shaft Double | No |
|---------------------|----|

| | | | |
|------------------------|------|-------------------------|----|
| Weight net [kg] | 0.99 | MTBF 100% [Year] | 13 |
|------------------------|------|-------------------------|----|

| | | | |
|--------------------------|------|------------------------|----|
| Weight gross [kg] | 1.11 | MTBF 30% [Year] | 15 |
|--------------------------|------|------------------------|----|

| | |
|-----------------|---------|
| Software | MacTalk |
|-----------------|---------|

| | |
|------------------|-----|
| CE Marked | Yes |
|------------------|-----|



| | |
|--------------------------|-----|
| Approval - ROHS-3 | Yes |
|--------------------------|-----|



| | |
|--------------------|----|
| Approval UL | No |
|--------------------|----|

| | | | |
|------------------|----------|--------------------------|----|
| Tariff no | 85015100 | Country Of Origin | DK |
|------------------|----------|--------------------------|----|



MIS231S1Q5H466

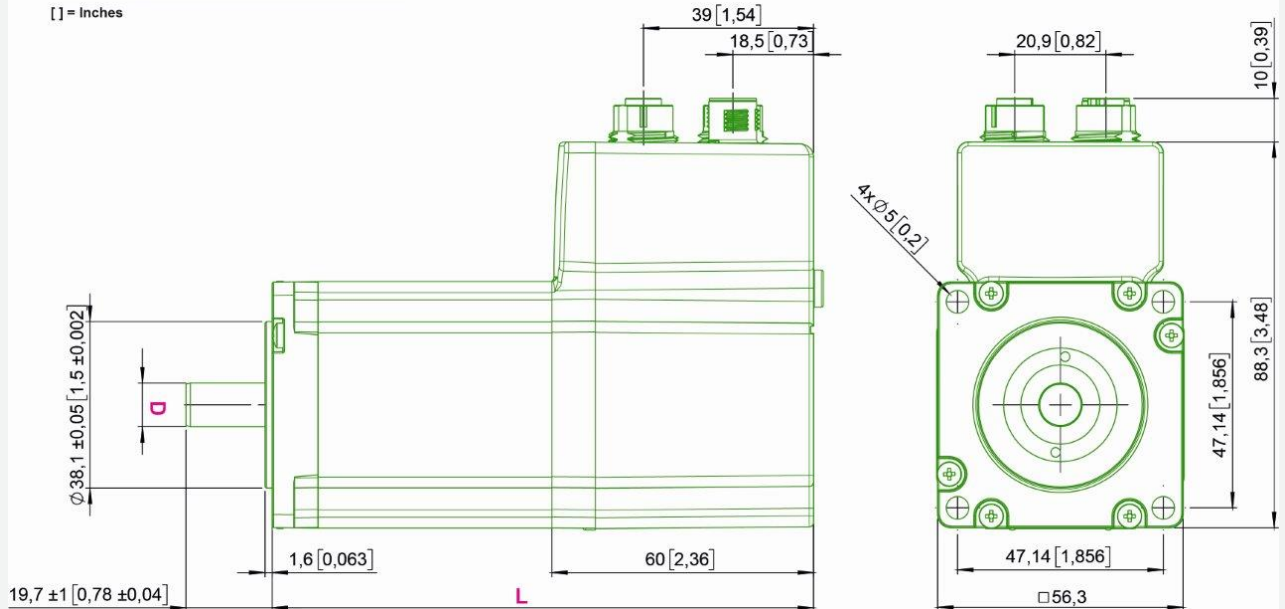
Int.Step 12-72VDC, RS485, AbsC-L

Mechanical information

| Motor Type | Length (L) ±1.0 [0.0787] | Shaft dia. (D) +0 / -0.013mm[0.000512] |
|------------|-----------------------------|---|
| MIS231S... | 103 [4.06] | 6.35 [0.25] |
| MIS232S... | 124 [4.88] | 6.35 [0.25] |
| MIS234S... | 161 [6.34] | 10.0 [0.3937] |
| MIS231T... | 103 [4.06] | 6.35 [0.25] |
| MIS232T... | 124 [4.88] | 10.0 [0.3937] |

[] = Inches

This drawing covers only motor type MIS23xS and MIS23xT with radial connectors



| | | | |
|---|-------------------------|--|--------|
| Motor length [mm] | 103 | Motor width [mm] | 56.4 |
| Motor height [mm] | 88.1 | | |
| Protection house | IP42 | Protection shaft | IP42 |
| | | Flange Rear | No |
| Flange Type Front | | Flange Type Rear | |
| Motor diameter center front [mm] | 38.1 | Motor diameter center rear [mm] | |
| Bolt circle diameter front [mm] | 66.6 | Bolt circle diameter front [mm] | |
| Mounting holes front [mm] | 5 mm | Mounting holes rear [mm] | |
| Flange material | Aluminium | Flange Thickness [mm] | |
| | | Shaft Double | No |
| Shaft Type Output | Round | Shaft Type Rear | |
| Shaft size - Front [mm] | 6.35 mm | Shaft size - Rear | - |
| Shaft length Front [mm] | 19.5 | Shaft length Rear [mm] | |
| Shaft material | Stainless steel AISI303 | | |
| Shaft Key included | Key NOT included | Shaft Key Dimension | - |
| Front bearing type | 6000ZZ | Rear bearing type | 6000ZZ |
| Radial load [N] | 1343 | Radial load distance [mm] | 10 |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Mechanical information

| | | | |
|--|---|---|----------|
| Axial load [N] | 377 | | |
| Axial play [mm] | | Axial play force [N] | |
| Integrated gear | No | Gear ratio | |
| Gear efficiency [%] | - | Gear backlash [ArcMin] | - |
| Brake | No | Brake - Go ON time [ms] | - |
| Brake Holding torque [Nm] | - | Brake - Go OFF time [ms] | - |
| Rotor inertia [kgcm²] | 0.3 | Max inertia factor | 40 |
| Precision Motor - Absolute [Deg] | 0.35 | Precision Motor - Max Load [Deg] | |
| Precision Motor - Repeatability [Deg] | 0.15 | Step angle [°/full step] | 1.8° |
| 2D [PDF] | Download | 2D [DWG] | No |
| 3D [DWG] | No | 3D [EASM] | Download |
| 3D [IGES] | No | 3D [STEP] | Download |
| Datasheet - pdf | | CAD file page | Link |
| User Manual | Download | WEB page | Link |
| Approval UL | No | STO connector | No |
| Approval - ATEX | No | Approval TÜV - STO | No |
| Oil resistant | | | |
| Temperature ambient [°C] | 0...40 °C and 0...70 °C with derating of performance | | |
| Temperature storage | -40...70 °C | | |
| Humidity working | 5...93% non-condensing | | |
| Vibration | 5-25 Hz: +/-1.6mm, 25-500Hz: 4G, 1.0 oct./min | | |
| Shock | 15G, 30ms. 6 x 1000 cycles in +/-X, +/-Y, +/-Z | | |
| Withstand Voltage | 500 VDC between earth and supply ground | | |
| EMC in general | EMC Directive DIR2014/30/EU | | |
| EMC Emission | EN61800-3 / EN61000-6-3 / EN61000-6-4 all 2. environment | | |
| EMC Immunity | En IEC 61800-3 / EN61000-6-1 all 2. environment | | |
| Safety in general | LVD DIR2014/35/EU / EL61800 - USA and Canada only MIS34x products are pending | | |
| Safety wo STO | EN60950-1 | | |
| Safety w STO | EN60950-1 / EN61508-1/-2 SIL3 / ISO13849-1/-2 / ISO62061 / EN61800-5-1/-2 | | |
| Inviromental | IEC 60068-2-27, Test Ea. Shock test | | |
| | IEC 60068-2-6, Test Fc. Vibration test | | |
| | IEC 60068-2-2, Test Bd. covers temperaturerise/dry heat | | |
| | IEC 60068-2-78, Perm. moisture/Damp heat, steady state | | |
| REACH SVHC document | | | |
| Low voltage Directive | | | |
| No Dual Use | | | |

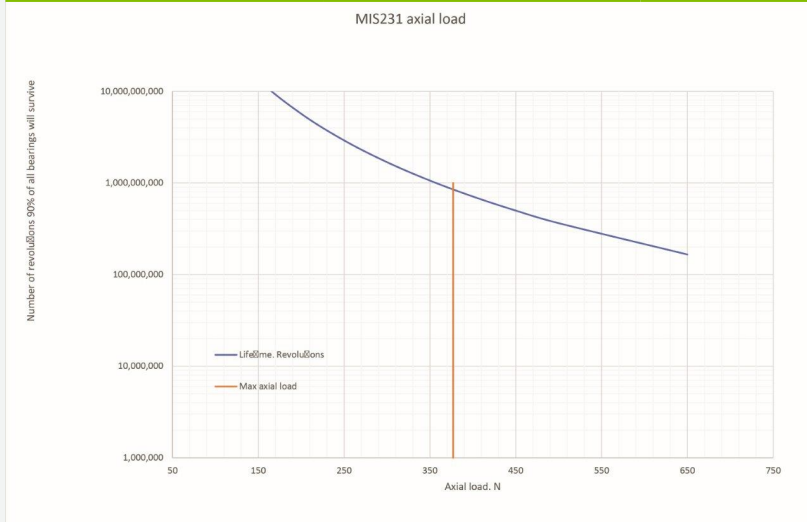


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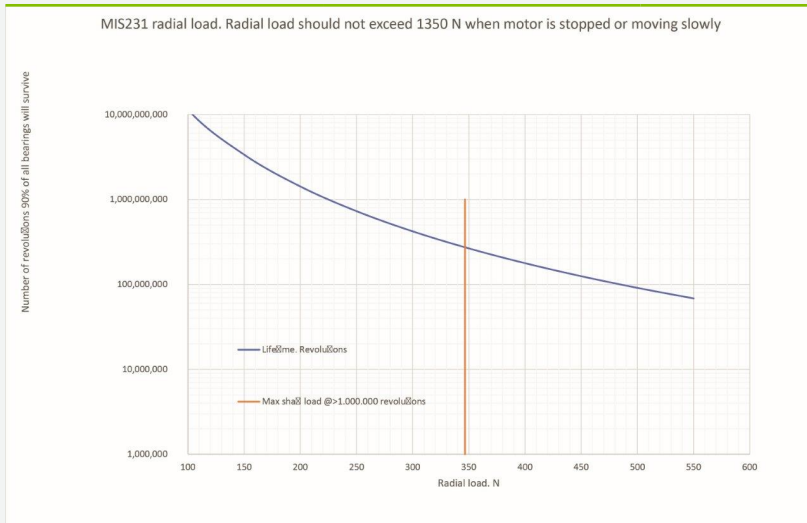
Int.Step 12-72VDC, RS485, AbsC-L

Mechanical information

| | | | |
|-------------------------------|-----|----------------------------|-----|
| Duty Cycle | | Max Duty Cycle [%] | |
| Axial Load Typical [N] | 377 | Axial Load Long [N] | 314 |



| | | | |
|--------------------------------|-----|-----------------------------|-----|
| Radial Load Typical [N] | 346 | Radial Load Long [N] | 282 |
|--------------------------------|-----|-----------------------------|-----|



| | |
|--------------------------|-----------------------|
| Load typical term | Load Long term |
|--------------------------|-----------------------|

Shaft Seal



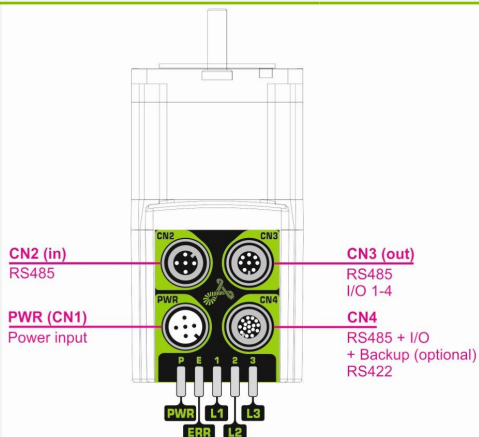
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Int.Step 12-72VDC, RS485, AbsC-L

Connector information

| | | | |
|--------------------------|-----|--------------------------|---------------------------|
| Connector 1 label | PWR | Connector 1 | M12 5-pin male A-coded |
| Connector 2 label | CN2 | Connector 2 | M12 5-pin female A-coded |
| Connector 3 label | CN3 | Connector 3 | M12 8-pin female A-coded |
| Connector 4 label | CN4 | Connector 4 | M12 17-pin female A-coded |
| Connector 1 RS485 | No | Connector 2 RS485 | Yes |
| Connector 3 RS485 | Yes | Connector 4 RS485 | Yes |

Motor connectors



MIS23xS/T - Q5
RS485 serial communication
in network and IO

Picture CN1

“PWR” (CN1) - Power input. M12 - 5pin male connector

| Signal name | Description | Pin no. | JVL Cable W11000-M12F5TxxN | Isolation group |
|-------------|--|---------|----------------------------|-----------------|
| P+ | Main supply +7-72VDC. Connect with pin 2 * | 1 | Brown | 1 |
| P+ | Main supply +7-72VDC. Connect with pin 1 * | 2 | White | 1 |
| P- | Main supply ground. Connect with pin 5 * | 3 | Blue | 1 |
| CVI | Control and user output supply +7-30VDC. DO NOT connect >30V to this terminal! | 4 | Black | 1 |
| P- | Main supply ground. Connect with pin 3 * | 5 | Grey | 1 |

* Note: P+ and P- are each available at 2 terminals. Make sure that both terminals are connected in order to split the supply current in 2 terminals and thereby avoid an overload of the connector.

Picture CN2

“CN2” - RS485 IN/OUT. M12 - 5pin female connector.

| Signal name | Description | Pin no. | JVL Cable W11000-M12M5TxxN | Isolation group (See note) |
|-------------|--|---------|----------------------------|----------------------------|
| RS485: B0- | RS485 interface. Leave open if unused | 1 | Brown | 1 |
| RS485: A0+ | RS485 interface. Leave open if unused | 2 | White | 1 |
| RS485: B0- | RS485 interface. Leave open if unused | 3 | Blue | 1 |
| RS485: A0+ | RS485 interface. Leave open if unused | 4 | Black | 1 |
| GND | Ground intended to be used together with the other signals in this connector | 5 | Grey | 1 |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Connector information

Picture CN3

| "CN3" - RS485 + I/O connector - M12 - 8pin female connector. | | | | |
|--|--|---------|-----------------------------------|----------------------------------|
| Signal name | Description | Pin no. | JVL Cable W11000-M12 M8TxxN | Isolation group (See note) |
| IO1 | I/O channel 1. Can be used as input or output | 1 | White | 1 |
| IO2 | I/O channel 2. Can be used as input or output | 2 | Brown | 1 |
| IO3 | I/O channel 3. Can be used as input or output | 3 | Green | 1 |
| GND | Ground intended to be used together with the other signals in this connector | 4 | Yellow | 1 |
| RS485: B0- | RS485 interface. Leave open if unused | 5 | Grey | 1 |
| RS485: A0+ | RS485 interface. Leave open if unused | 6 | Pink | 1 |
| IO4 | I/O channel 4. Can be used as input or output | 7 | Blue | 1 |
| CVO | Supply output. Connected internally to the CVI terminal in the PWR connector. Max 700 mA. DO NOT connect >30V to this terminal! USB interface. Supply input 5VDC nominal | 8 | Red | 1 |

Picture CN4

| "CN4" - RS485 + I/O + Backup (option) connector - M12 - 17pin female connector | | | | |
|--|--|---------|-----------------------------------|----------------------------------|
| Signal name | Description | Pin no. | JVL Cable W11009M12 M17TxxN | Isolation group (see note) |
| IO1 | I/O channel 1. Can be used as input or output | 1 | Brown | 1 |
| GND | Ground intended to be used together with the other signals in this connector | 2 | Blue | 1 |
| IO2 | I/O channel 2. Can be used as input or output | 3 | White | 1 |
| IO3 | I/O channel 3. Can be used as input or output | 4 | Green | 1 |
| RS422: B1- | RS422 I/O terminal B- | 5 | Pink | 1 |
| IO4 | I/O channel 4. Can be used as input or output | 6 | Yellow | 1 |
| RS422: A1- | RS422 I/O terminal A- | 7 | Black | 1 |
| RS422: B1+ | RS422 I/O terminal B+ | 8 | Grey | 1 |
| CVO | Supply output. Connected internally to the CVI terminal in the PWR connector. DO NOT connect >30V to this terminal! | 9 | Red | 1 |
| RS422: A1+ | RS422 I/O terminal A+ | 10 | Violet | 1 |
| IO5 | I/O channel 5. Can be used as input or output | 11 | Grey/pink | 1 |
| IO6 | I/O channel 6. Can be used as input or output | 12 | Red/blue | 1 |
| IO7 | I/O channel 7. Can be used as input or output | 13 | White/Green | 1 |
| IO8 | I/O channel 8. Can be used as input or output | 14 | Brown/Green | 1 |
| RS485: B0- | RS485 interface. Leave open if unused | 15 | White/Yellow | 1 |
| EXTBACKUP | Only for motors with the -H3 or -H4 option (abs. multiturn encoder). This terminal can be connected to an external supply. Connect to ground (GND) if not used. | 16 | Yellow/brown | 1 |
| RS485: A0+ | RS485 interface. Leave open if unused | 17 | White/grey | 1 |

* Note: Isolation group indicate which terminals/circuits that a galvanic connected to each other. In other words group 1, 2, 3 and 4 are all fully independently isolated from each other. Group 1 correspond to the housing of the motor which may also be connected to earth via the DC or AC input supply.

Connector STO No

Picture STO Con -



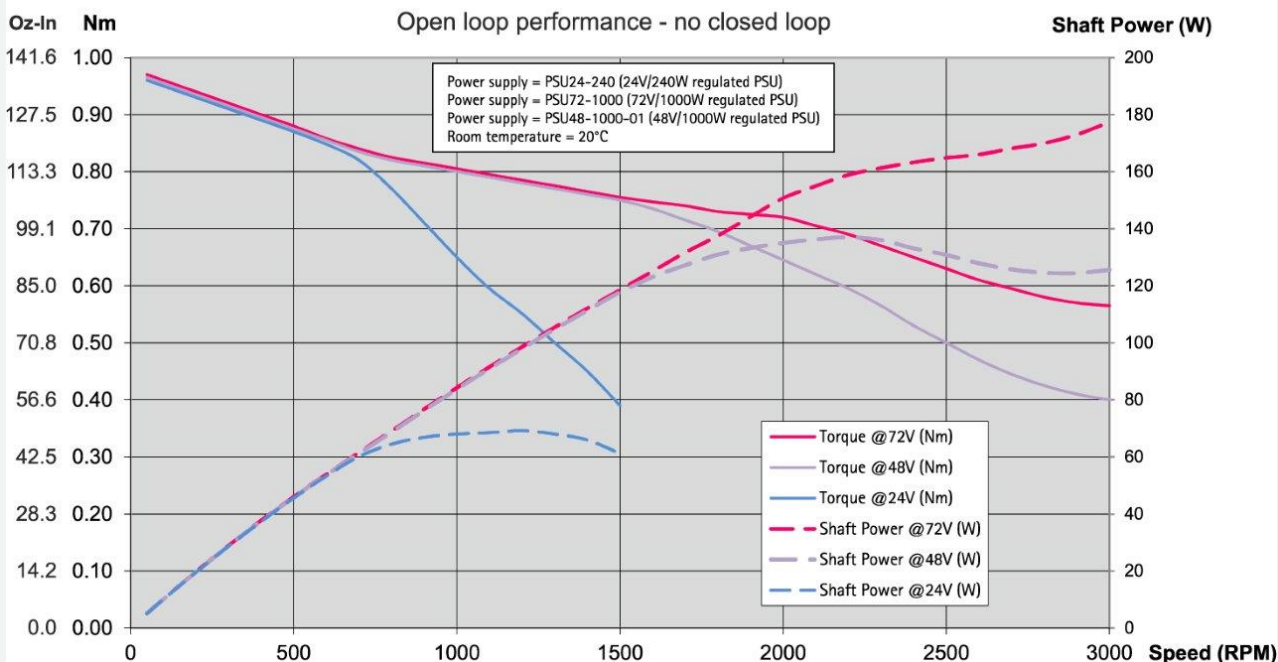
MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Torque, force and Power information

| | | | |
|----------------------------|------|----------------------------|--------|
| Supply Volt 1 [V] | | Power Peak 1 [W] | |
| Supply Volt 2 [V] | 24 | Power Peak 2 [W] | 69.00 |
| Supply Volt 3 [V] | 48 | Power Peak 3 [W] | 137.00 |
| Supply Volt 4 [V] | 72 | Power Peak 4 [W] | 177.00 |
| Holding torque [Nm] | 0.97 | Running torque [Nm] | 0.97 |
| Detent torque [Nm] | | | |

MIS231S motor torque and shaft power versus speed





MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Electrical information

| | | | |
|---|----------------------------|--|--|
| Main supply [V] | 12-72 | Main supply Min-Max [V] | 7-90 |
| Rated motor current [A] | 5.2 | | |
| Control voltage (CVI/O+) [VDC] | 7-28 | Control Voltage (CVI) Min-Max [VDC] | 7-30 |
| CVI current wo Ethernet and output (12/24VDC) [mA] | 165/95 | Current Ethernet option (12/24VDC) [mA] | - |
| Current brake option [mA] | - | Current for 1 Dig. output max [mA] | - 350 |
| Max current CVI [A] | | | |
| Dig. Input impedans | 30 Kohm | Counter frequency max | 12MHz |
| MTBF 30% [Year] | 15 | MTBF 100% [Year] | 13 |
| Motor resolution | 409600 | Encoder type | H4: H2 incr+absSingleturn and H3 serial/absMultiturn |
| Encoder Resolution (H2) H2 - 4096 Singleturn AbsEnc - Semi multiturn | | | |
| Encoder Resolution (H3) | H3 - 1024 Multiturn AbsEnc | Encoder revolutions | +/-5242 |
| PLC no. of DI/DO/AI | 8 | Analogue voltage | 0-5VDC 12bit |
| Standard used | | Standard used 2 | |
| Resistance [Ohm] | | Induction [mH] | |



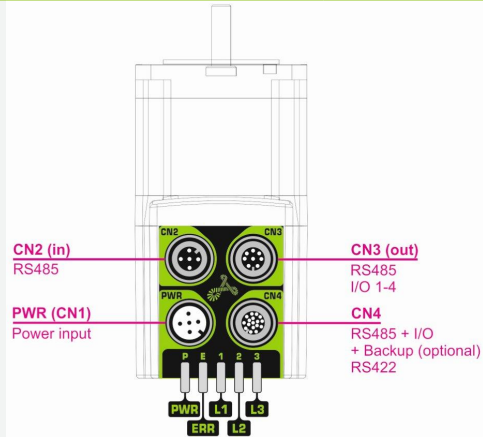
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Int.Step 12-72VDC, RS485, AbsC-L

Communication information

| | | | |
|---|---------|--------------------------|-----|
| Software | MacTalk | Connector 2 RS485 | Yes |
| Connectivity: Without module | RS485 | Connector 3 RS485 | Yes |
| | | Connector 4 RS485 | Yes |

Motor connectors



MIS23xS/T - Q5
RS485 serial communication
in network and IO

e-PLC Files

Ethernet, PLC demo files



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Cable information

| Item number | Mount on | Cable con 1 +Con 1 angle | Cable application | Wires no totally | Cable length [m] |
|---|-------------|--|---------------------------------|------------------|------------------|
| Item description | | Cable con 2 +Con 2 angle | Cable flexibility | Wire [mm2] | Connector 1 LED |
| WI1000-M12F5T02N M12 Shl Cable 2m 5 pin Fem 0°, Power | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 2 No |
| WI1000-M12F5T05N M12 Shl Cable 5m 5 pin Fem 0°, Power | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 5 No |
| WI1000-M12F5T1.2N M12 Shl Cable 1.2m 5 pin Fem 0°, Power | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 1.2 No |
| WI1000-M12F5T10N M12 Shl Cable 10m 5 pin Fem 0°, Power | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 10 No |
| WI1000-M12F5T10R M12 Shl Cable 10m 5 pin Fem 0°, Power, High-flex | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Robotic - 3D | 5 0.32 | 10 No |
| WI1000-M12F5T20N M12 Shl Cable 20m 5 pin Fem 0°, Power | Connector 1 | M12 5-pin female A-coded - 0° Straight Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 20 No |
| WI1000-M12F5TLT0185 M12 shl Cable 3m 5 pin female 0°,PW SPEC | Connector 1 | M12 5-pin female A-coded - 0° Straight - n/a | Power Standard | 5 0.32 | 3 No |
| WI1000-M12F5V05N M12 Shl Cable 5m 5 pin Fem 90°, Power | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 5 No |
| WI1000-M12F5V10N M12 Shl Cable 10 m 5 pin Fem 90°, Power | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 10 No |
| WI1000-M12F5V20N M12 Shl Cable 20m 5 pin Fem 90°, Power | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power/Motor/com Standard | 5 0.32 | 20 No |
| WI1000-M12F5W05N M12 Shl Cable 5m LED 5p Fem 90°, Power <50V | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power 24/48 Standard | 5 0.32 | 5 LED |
| WI1000-M12F5W10N M12 Shl Cable 10m LED 5 p Fem 90°, Power <50V | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power 24/48 Standard | 5 0.32 | 10 LED |
| WI1000-M12F5W15N M12 Shl Cable 15m LED 5 p Fem 90°, Power <50V | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power 24/48 Standard | 5 0.32 | 15 LED |
| WI1000-M12F5W20N M12 Shl Cable 20m LED 5 p Fem 90°, Power <50V | Connector 1 | M12 5-pin female A-coded - 90° Angled Open Ended - n/a | Power 24/48 Standard | 5 0.32 | 20 LED |
| WI1000-M12F5WF5W20N M12 shl cab 20m LED 5 pin female 90',Pow <50V | Connector 1 | M12 5-pin female A-coded - 90° Angled M12 5-pin female A-coded - 90° Angled | Power 24/48 Standard | 5 0.32 | 20 LED |
| WI1008-M12F5SS1 M12 Con 5p Fem 0° Solder assembly | Connector 1 | M12 5-pin female A-coded - 0° Straight - n/a | n/a | n/a | Connector No |
| WI1008-M12F5TG1 M12 Con 5p Fem 0° Spring Shield+B222 | Connector 1 | M12 5-pin female A-coded - 0° Straight - n/a | n/a | n/a | Connector No |
| WI1008-M12F5VG1 M12 Con 5p Fem 90° Spring Shield | Connector 1 | M12 5-pin female A-coded - 90° Angled - n/a | n/a | n/a | Connector No |
| WI1000-M12M5A05N M12 cable 5m, 5 pin male 90°, COM2/ B4 | Connector 2 | M12 5-pin male A-coded - 90° Angled Open Ended - n/a | Communication Standard | 5 0.32 | 5 No |
| WI1000-M12M5T05N M12 Shl Cable 5m 5 p Male 0°, COM | Connector 2 | M12 5-pin male A-coded - 0° Straight Open Ended - n/a | Communication Standard | 5 0.32 | 5 No |
| WI1000-M12M5T20N M12 Shl Cable 20m 5 p Male 0°, COM | Connector 2 | M12 5-pin male A-coded - 0° Straight Open Ended - n/a | Communication Standard | 5 0.32 | 20 No |
| WI1000-M12M5TF5T.5N M12 Shl Cable .5m 5p Male 0° to 5p Fem 0 | Connector 2 | M12 5-pin male A-coded - 0° Straight M12 5-pin female A-coded - 0° Straight | Communication Standard | 5 0.32 | 0.5 No |
| WI1000-M12M5TF5T01N M12 Shl Cable 1m 5p Male 0° to 5p Fem 0° | Connector 2 | M12 5-pin male A-coded - 0° Straight M12 5-pin female A-coded - 0° Straight | Communication Standard | 5 0.32 | 1 No |
| WI1000-M12M5TF5T02N M12 Shl Cable 2m 5p Male 0° to 5p Fem 0° | Connector 2 | M12 5-pin male A-coded - 0° Straight M12 5-pin female A-coded - 0° Straight | Communication Standard | 5 0.32 | 2 No |
| WI1000-M12M5TF5T02T M12 Cable 2m 5pM 180° to 5pF 180° twisted, power c | Connector 2 | M12 5-pin male A-coded - 0° Straight M12 5-pin female A-coded - 0° Straight | Communication Standard | 5 0.32 | 2 No |
| WI1000-M12M5TF5T03N M12 Shl Cable 3m 5p Male 0° to 5p Fem 0° | Connector 2 | M12 5-pin male A-coded - 0° Straight M12 5-pin female A-coded - 0° Straight | Communication Standard | 5 0.32 | 3 No |
| WI1000-M12M5V05N M12 Shl Cable 5m 5 p Male 90°, COM | Connector 2 | M12 5-pin male A-coded - 90° Angled Open Ended - n/a | Communication Standard | 5 0.32 | 5 No |
| WI1000-M12M5V20N | Connector 2 | M12 5-pin male A-coded - 90° Angled | Communication | 5 | 20 |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Cable information

| Item number | Mount on | Cable con 1 +Con 1 angle | Cable application | Wires no totally | Cable length [m] |
|--|-------------|--|-------------------|------------------|------------------|
| Item description | | Cable con 2 +Con 2 angle | Cable flexibility | Wire [mm2] | Connector 1 LED |
| M12 Shl Cable 20m 5 p Male 90°, COM | | Open Ended - n/a | Standard | 0.32 | No |
| WI1005-M12M5STR6 | Connector 2 | M12 5-pin male A-coded - 0° Straight | Communication | n/a | Connector |
| M12 5-pin male A Code Resistor RS485 | | n/a - n/a | n/a | n/a | No |
| WI1005-M12M5TF5T.2N | Connector 2 | M12 5-pin male A-coded - 0° Straight | Communication | | 0.2 |
| M12 Cab 0.2m, 5p Mal - 5p Fem, RS485 .Std cable | | M12 5-pin male A-coded - 0° Straight | Standard | 0.32 | No |
| WI1005-M12M5TM5T01N | Connector 2 | M12 5-pin male A-coded - 0° Straight | Communication | | 1 |
| M12 Cab 1m, 5p Mal - 5p Mal, RS485. Std cable | | M12 5-pin male A-coded - 0° Straight | Standard | 0.32 | No |
| WI1008-M12M5AC1 | Connector 2 | M12 5-pin male A-coded - 90° Angled | | n/a | Connector |
| M12 Con 5p Male 90° Screw PG7 for cable | | - n/a | n/a | n/a | No |
| WI1008-M12M5AG1 | Connector 2 | M12 5-pin male A-coded - 90° Angled | | n/a | Connector |
| M12 Con 5p Male 90° Spring Ø4-8mm cable | | - n/a | n/a | n/a | No |
| WI1008-M12M5SC1 | Connector 2 | M12 5-pin male A-coded - 0° Straight | | n/a | Connector |
| M12 Con 5p Male 0° Screw PG7 cable | | - n/a | n/a | n/a | No |
| WI1008-M12M5SS1 | Connector 2 | M12 5-pin male A-coded - 0° Straight | | n/a | Connector |
| M12 Con 5p Male 0° Solder assembly | | - n/a | n/a | n/a | No |
| WI1008-M12M5TC1 | Connector 2 | M12 5-pin male A-coded - 0° Straight | | n/a | Connector |
| M12 Con 5p Male A-coded Screw Shield | | - n/a | n/a | n/a | No |
| WI1008-M12M5TG1 | Connector 2 | M12 5-pin male A-coded - 0° Straight | | n/a | Connector |
| M12 Con 5p Male 0° Spring Shield | | - n/a | n/a | n/a | No |
| WI1008-M12M5VG1 | Connector 2 | M12 5-pin male A-coded - 90° Angled | | n/a | Connector |
| M12 Con 5p Male 90° Spring Shield | | - n/a | n/a | n/a | No |
| WI1000-M12M8T02N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Basic I/O, Com | 8 | 2 |
| M12 Shl Cable 2m 8 p Male 0° COM1/Ext IO | | Open Ended - n/a | Standard | 0.32 | No |
| WI1000-M12M8T05N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Basic I/O, Com | 8 | 5 |
| M12 Shl Cable 5m 8 p Male 0° COM1/Ext IO | | Open Ended - n/a | Standard | 0.32 | No |
| WI1000-M12M8T20N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Basic I/O, Com | 8 | 20 |
| M12 Shl Cable 20m 8 p Male 0° COM1/ExtIO | | Open Ended - n/a | Standard | 0.32 | No |
| WI1000-M12M8TF4LT186 | Connector 3 | M12 8-pin male A-coded - 0° Straight | | 8 | 5 |
| M12 shl cable5m, M12 M8, M8 F4 0° IO | | M12 4-pin female A-coded - 0° Straight | | 0.32 | No |
| WI1000-M12M8TF8T.5N | Connector 3 | M12 8-pin male A-coded - 0° Straight | | 8 | 0.5 |
| M12 Shl Cable .5m 8p Fem 0° to 8p Male 0 | | M12 5-pin female A-coded - 0° Straight | Standard | 0.32 | No |
| WI1000-M12M8TLT0184 | Connector 3 | M12 8-pin male A-coded - 0° Straight | | 8 | 5 |
| M12 shl cable5m, 8 pin male 0° IO SPEC | | M12 4-pin female A-coded - 0° Straight | | 0.32 | No |
| WI1000-M12M8V05N | Connector 3 | M12 8-pin male A-coded - 90° Angled | Basic I/O, Com | 8 | 5 |
| M12 Shl Cable 5m 8 p Mal 90° COM1/ExtIO | | Open Ended - n/a | Standard | 0.2 | No |
| WI1000-M12M8V20N | Connector 3 | M12 8-pin male A-coded - 90° Angled | Basic I/O, Com | 8 | 20 |
| M12 Shl Cable 20m 8 p Mal 90° COM1/ExtIO | | Open Ended - n/a | Standard | 0.2 | No |
| WI1005-M12M8QM5V.3N | Connector 3 | M12 8-pin male A-coded - 90° Angled | Communication | | 0.3 |
| M12 Shl Cab 0.3m 8p Mal 5p Mal 90° RS485 twisted | | M12 5-pin male A-coded - 90° Angled | Standard | 0.32 | No |
| WI1005-M12M8S10N | Connector 3 | M12 8-pin male A-coded - 0° Straight | | 8 | 10 |
| M12 Shl Cable 10m, 8 p Male MAC00-B41 twisted | | Open Ended - n/a | Standard | 0.32 | No |
| WI1005-M12M8STR5 | Connector 3 | M12 8-pin male A-coded - 0° Straight | Communication | n/a | Connector |
| M12 8-pin male A Code Resistor RS485 | | n/a - n/a | n/a | 0.32 | No |
| WI1005-M12M8TF8T20N | Connector 3 | M12 8-pin male A-coded - 0° Straight | | 8 | 5 |
| M12 Shl Cab 20m 8p Male 8p Female 0° RS485 twisted | | M12 8-pin female A-coded - 0° Straight | | 0.32 | No |
| WI1005-M12M8TM5T.3N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Communication | 5 | 0.3 |
| M12 Shl Cab 0,3 m 8p Male 5p Male 0° RS485 twisted | | M12 5-pin male A-coded - 0° Straight | Standard | 0.32 | No |
| WI1005-M12M8TM5T.5N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Communication | 5 | 0.5 |
| M12 Shl Cab 0,5 m 8p Male 5p Male 0° RS485 twisted | | M12 5-pin male A-coded - 0° Straight | Standard | 0.32 | No |
| WI1005-M12M8TM5T05N | Connector 3 | M12 8-pin male A-coded - 0° Straight | Communication | 5 | 5 |
| M12 Shl Cab 5m 8p Male 5p Male 0° RS485 twisted | | M12 5-pin male A-coded - 0° Straight | Standard | 0.32 | No |
| WI1005-M12M8VM5V.5N | Connector 3 | M12 8-pin male A-coded - 90° Angled | Communication | 5 | 0,5 |
| M12 Shl Cab 0.5m 8pMale 5pMale 90° RS485 twisted | | M12 5-pin male A-coded - 90° Angled | Standard | 0.32 | No |
| WI1005-M12M8VM5V03N | Connector 3 | M12 8-pin male A-coded - 90° Angled | Communication | 5 | 3 |
| M12 Shl Cab3m 8p Male 5p Male 90° RS485 twisted | | M12 5-pin male A-coded - 90° Angled | Standard | 0.32 | No |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Cable information

| Item number | Mount on | Cable con 1 +Con 1 angle | Cable application | Wires no totally | Cable length [m] |
|---|-------------------|--|------------------------------------|------------------|------------------|
| Item description | | Cable con 2 +Con 2 angle | Cable flexibility | Wire [mm2] | Connector 1 LED |
| WI1005-M12M8VM5V10N M12 Shl Cab10m 8p Male 5p Male 90° RS485 twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled M12 5-pin male A-coded - 90° Angled | Communication Standard | 5 0.32 | 10 No |
| WI1005-M12M8VM5V20N M12 Shl Cab20m 8p Male 5p Male 90° RS485 twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled M12 5-pin male A-coded - 90° Angled | Communication Standard | 5 0.32 | 20 No |
| WI1008-M12M8SC1 M12 Con 8p Male 0° Screw Ø4-8mm cable | Connector 3 | M12 8-pin male A-coded - 0° Straight - n/a | n/a n/a | n/a n/a | Connector No |
| WI1008-M12M8SS1 M12 Con 8p Male 0° Solder assembly | Connector 3 | M12 8-pin male A-coded - 0° Straight - n/a | n/a n/a | n/a n/a | Connector No |
| WI1008-M12M8TC1 M12 Con 8p Male 0° Screw Shield | Connector 3 | M12 8-pin male A-coded - 0° Straight - n/a | n/a n/a | n/a n/a | Connector No |
| WI1008-M12M8TS1 M12 Con 8p Male 0° Solder Shield | Connector 3 | M12 8-pin male A-coded - 0° Straight - n/a | n/a n/a | n/a n/a | Connector No |
| WI1009-M12M8Q1.2N M12 Shl Cable 1.2m 8p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 1.2 No |
| WI1009-M12M8V05N M12 Shl Cable 5m 8 p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 5 No |
| WI1009-M12M8V20N M12 Shl Cable 20m 8 p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 20 No |
| WI1011-M12M8V1.2T M12 Shl Cable 1.2m 8 p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 1.2 No |
| WI1011-M12M8V10T M12 Shl Cable 10m 8 p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 10 No |
| WI1011-M12M8V15T M12 Shl Cable 15m 8 p Male 90° 4P twisted | Connector 3 | M12 8-pin male A-coded - 90° Angled Open Ended - n/a | Standard | 8 0.32 | 15 No |
| RS485-M12-1-5-8 RS485 M12-8pin DSub, 5m, straight v1.0 | Connector 3 RS485 | M12 8-pin male A-coded - 0° Straight D-Sub 9-pin female - RS485 - 0° Straight | Communication Cable chains - 2D | 3 0,32 | 5 No |
| WI1005-M12M17SAA01 M12 17-pin male Axis 1 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA01-1 M12 17-pin male Axis 1, with wire 1,2m | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA02 M12 17-pin male Axis 2 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA03 M12 17-pin male Axis 3 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA04 M12 17-pin male Axis 4 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA05 M12 17-pin male Axis 5 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA06 M12 17-pin male Axis 6 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA06-1 M12 17-pin male Axis 6 with wire 1,2m | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA07 M12 17-pin male Axis 7 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA08 M12 17-pin male Axis 8 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA09 M12 17-pin male Axis 9 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1005-M12M17SAA10 M12 17-pin male Axis 10 Without wire | Connector 4 | M12 17-pin male A-coded - 0° Straight n/a - n/a | n/a | n/a n/a | Connector No |
| WI1008-M12M17SR1 M12 Con 17p Male 0° Metal housing 5.4-8.2mm cable | Connector 4 | M12 12-pin male A-coded - 0° Straight - n/a | n/a | n/a n/a | Connector No |
| WI1009-M12M17T01N M12 Shl Cable 1m 17p Mal 0° MISxx,Ex41 twisted | Connector 4 | M12 17-pin male A-coded - 0° Straight Open Ended - n/a | Basic I/O, Com Standard | 17 0.061 | 1 No |
| WI1009-M12M17T05N | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 5 |



MIS231S1Q5H466

Int.Step 12-72VDC, RS485, AbsC-L

Cable information

| Item number | Mount on | Cable con 1 +Con 1 angle | Cable application | Wires no totally | Cable length [m] |
|--|-------------------|--|-------------------|------------------|------------------|
| Item description | | Cable con 2 +Con 2 angle | Cable flexibility | Wire [mm2] | Connector 1 LED |
| M12 Shl Cable 5m 17p Mal 0° MISxx,Ex41 twisted | | Open Ended - n/a | Standard | 0.061 | No |
| WI1009-M12M17T10R | Connector 4 | M12 17-pin male A-coded - 0° Straight | | 17 | 5 |
| M12 Shl Cable 10m 17p Mal 0° MISxx,Ex41 twisted | | Open Ended - n/a | Robotic - 3D | 0.061 | No |
| WI1009-M12M17T20N | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 20 |
| M12 Shl Cable 20m 17p Mal 0° MISxx,Ex41 twisted | | Open Ended - n/a | Standard | 0.061 | No |
| WI1009-M12M17TF17T.5 | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 0.5 |
| M12 Shl Cable.5m Male17p0°-Female 17p0° twist pair | | M12 17-pin female A-coded - 0° Straight | Standard | 0.061 | No |
| WI1009-M12M17TF17T01 | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 1 |
| M12 Shl Cable 1m Male17p0°-Female 17p0° twist pair | | M12 17-pin female A-coded - 0° Straight | Standard | 0.061 | No |
| WI1009-M12M17TF17T02 | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 2 |
| M12 Shl Cable 2m Male17p0°-Female 17p0° twist pair | | M12 17-pin female A-coded - 0° Straight | Standard | 0.061 | No |
| WI1009-M12M17TF17T03 | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 3 |
| M12 Shl Cable 3m Male17p0°-Female 17p0° twist pair | | M12 17-pin female A-coded - 0° Straight | Standard | 0.061 | No |
| WI1009-M12M17TF17T04 | Connector 4 | M12 17-pin male A-coded - 0° Straight | Basic I/O, Com | 17 | 4 |
| M12 Shl Cable 4m Male17p0°-Female 17p0° twist pair | | M12 17-pin female A-coded - 0° Straight | Standard | 0.061 | No |
| WI1009-M12M17V05N | Connector 4 | M12 17-pin male A-coded - 90° Angled | Basic I/O, Com | 17 | 5 |
| M12 Shl Cable 5m 17p Mal 90° MISxx,Ex41 twisted | | Open Ended - n/a | Standard | 0.061 | No |
| WI1009-M12M17V10N | Connector 4 | M12 17-pin male A-coded - 90° Angled | Basic I/O, Com | 17 | 10 |
| M12 Shl Cable 10m 17p Mal 90° MISxx,Ex41 twisted | | Open Ended - n/a | Standard | 0.061 | No |
| RS485-M12-1-5-17 | Connector 4 RS485 | M12 17-pin male A-coded - 0° Straight | Communication | 3 | 5 |
| RS485 M12-17pin DSub, 5m v1.1 | | D-Sub 9-pin female - RS485 - 0° Straight | Cable chains - 2D | 0,32 | No |