Field Guide to Automation

We Challenge the Way of Automation

MURR ELEKTRONIK

stay connected

Field Guide to Automation

Murrelektronik's I/O systems connect actuators and sensors of a system to the control.

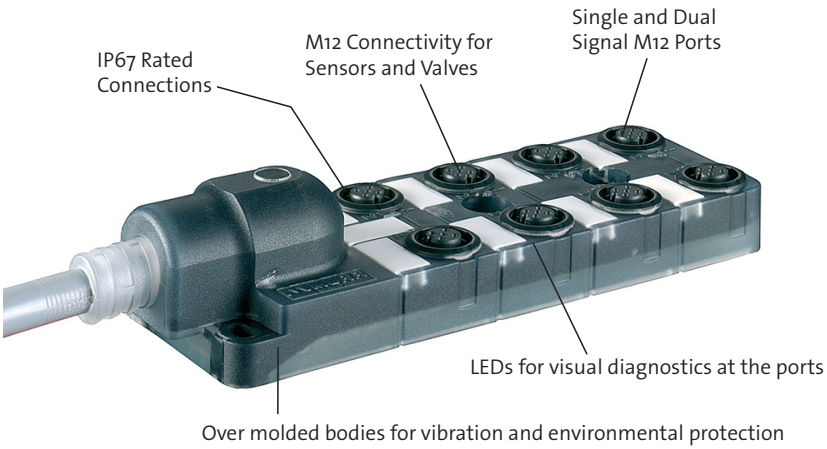
From our Exact12 family of passive distribution boxes to our Cube fieldbus products, we can accommodate your installation needs.

Index

Exact12

EXACT 12 distribution boxes offer solutions for an array of applications.

Space saving and maintenance friendly, they offer up to a 40% cost reduction compared to junction boxes and can be installed in less than a ¼ of the time.

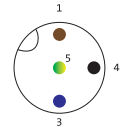


Signal Selection

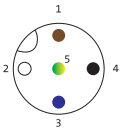
- PNP or NPN
- With or without LED
- Digital or Analog Signals
- 4 or 8 Port
- 24V DC or 48V/125V AC/DC

Pin Assignments

4 & 5-Pole Versions



1. Brown (+24)
3. Blue (-)
4. Black Signal 1
5. Green/Yellow - Earth Ground



1. Brown (+24)
2. White Signal 2
3. Blue (-)
4. Black Signal 1
5. Green/Yellow - Earth Ground

Integrated Cable

			4-port	
LED	Cable	Length	4-pole (1 Signal)	5-pole (2 Signal)
PNP	PUR/PVC	3m	8000-84410-3330300	8000-84510-3630300
		5m	8000-84410-3330500	8000-84510-3630500
		10m	8000-84410-3331000	8000-84510-3631000
	PUR	5m		8000-84510-4480500
		10m		8000-84510-4481000
NPN	PUR/PVC	5m	8000-84411-3330500	8000-84511-3630500
		10m	8000-84411-3331000	8000-84511-3631000
	PUR	5m		8000-84511-4480500
		10m		8000-84511-4481000
w/o LED (125V AC/DC) + Analog	PUR/PVC	5m	8000-84412-3330500	8000-84512-3630500
		10m	8000-84412-3331000	8000-84512-3631000
	PUR	5m		8000-84512-4480500
		10m		8000-84512-4481000

			8-port	
LED	Cable	Length	4-pole (1 Signal)	5-pole (2 Signal)
PNP	PUR/PVC	3m	8000-88410-3620300	8000-88510-3980300
		5m	8000-88410-3620500	8000-88510-3980500
		10m	8000-88410-3621000	8000-88510-3981000
	PUR	5m	8000-88410-4470500	8000-88510-4520500
		10m	8000-88410-4471000	8000-88510-4521000
NPN	PUR/PVC	5m	8000-88411-3620500	8000-88511-3980500
		10m	8000-88411-3621000	8000-88511-3981000
	PUR	5m	8000-88411-4470500	8000-88511-4520500
		10m	8000-88411-4471000	8000-88511-4521000
w/o LED (125V AC/DC) + Analog	PUR/PVC	5m	8000-88412-3620500	8000-88512-3980500
		10m	8000-88412-3621000	8000-88512-3981000
	PUR	5m	8000-88412-4470500	8000-88512-4520500
		10m	8000-88412-4471000	8000-88512-4521000

Pluggable - Base Module

4-port		
LED	4-pole (1 Signal)	5-pole (2 Signal)
PNP	8000-84400-0000000	8000-84500-0000000
PNP w/Cap	8000-84450-0000000	8000-84550-0000000
NPN	8000-84401-0000000	8000-84501-0000000
w/o LED	8000-84402-0000000	8000-84502-0000000
8-port		
LED	4-pole (1 Signal)	5-pole (2 Signal)
PNP	8000-88400-0000000	8000-88500-0000000
PNP w/Cap	8000-88450-0000000	8000-88550-0000000
NPN	8000-88401-0000000	8000-88501-0000000
w/o LED	8000-88402-0000000	8000-88502-0000000

Pluggable - Cap Module

4-port				
Terminal	Cable	Length	4-pole (1 Signal)	5-pole (2 Signal)
Spring	Without		8000-88549-0000000	
Screw	Without		8000-88559-0000000	
	PUR/PVC	3m	8000-84459-3330300	8000-84559-3630300
		5m	8000-84459-3330500	8000-84559-3630500
		10m	8000-84459-3331000	8000-84559-3631000
	PUR	3m		8000-84559-4480300
		5m		8000-84559-4480500
		10m		8000-84559-4481000
8-port				
Terminal	Cable	Length	4-pole (1 Signal)	5-pole (2 Signal)
Spring	Without		8000-88549-0000000	
Screw	Without		8000-88559-0000000	
	PUR/PVC	3m	8000-88459-3620300	8000-88559-3980300
		5m	8000-88459-3620500	8000-88559-3980500
		10m	8000-88459-3621000	8000-88559-3981000
	PUR	3m	8000-88459-4470300	8000-88559-4520300
		5m	8000-88459-4470500	8000-88559-4520500
		10m	8000-88459-4471000	8000-88559-4521000

THREADED HOME RUN

		4 Port
LED	Conn.	5 Pole (2 Signal)
PNP	M12 - 12 Pole	8000-84560-0000000
	M23 - 19 Pole	8000-84520-0000000
	M23 - 12 Pole	8000-84530-0000000

		8 Port	
LED	Conn.	4 Pole (1 Signal)	5 Pole (2 Signal)
PNP	M12 - 12 Pole	8000-88460-0000000*	
	M23 - 19 Pole		8000-88520-0000000
	M23 - 12 Pole	8000-88430-0000000	

* These blocks have 2 signals on ports 1 & 2 and 1 signal on the remaining ports.

PANEL MOUNT

Art. Number	8000-88580-0000000	8000-88590-0000000
Port	8-way, 5-pole PNP	
Wiring Option	Pluggable Rear Connection	
		With Potential Separation

RECTANGULAR PUNCH FOR PANEL MOUNT EXACT 12
Available from Greenlee®
Rectangular Die
1.25" x 1.38" (31.8mm x 35.1mm)
Cat. No.: 51600520

Exact8

INTEGRATED CABLE

4-PORT

Art. Number	8000-84010-3370500
Cable Length	5m
Port	M8 Female, 3-pole, 4 port

8-PORT

Art. Number	8000-88010-3590500	8000-88010-3591000
Cable Length	5m	10m
Port	M8 Female, 3-pole, 8 port	

10-PORT

Art. Number	8000-80010-3840500	8000-80010-3841000
Cable Length	5m	10m
Port	M8 Female, 3-pole, 10 port	

4-PORT M12 MULTI POLE HOMERUN

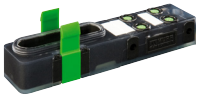
Art. Number	Port	Plug Connector M12
8000-84060-0000000	M8 female 3-pole	12-pole
8000-84070-0000000		8-pole
8000-84160-0000000	M8 female 4-pole	12-pole

8-PORT M12 MULTI POLE HOMERUN

Art. Number	8000-88060-0000000
Port	M8 female 3-pole
Plug Connector M12	12-pole

10-PORT M12 MULTI POLE HOMERUN

Art. Number	8000-80060-0000000
Port	M8 female 3-pole
Plug Connector M12	12-pole



EXACT8 PLUGGABLE HOUSING

Art. Number	Type	Port
8000-88000-0000000	8-port	M8 female, 3-pole
8000-80000-0000000	10-port	

PLUGGABLE CAP & CABLE

Art. Number	8000-88049-3570500	8000-88049-3571000	8000-80049-3850500	8000-80049-3851000
Type	8-port		10-port	
General	For 3 pole distribution block connectivity			
Cable Type	PUR/PVC			
Cable Length	5m	10m	5m	10m
Cable Color	Gray			

Cube20

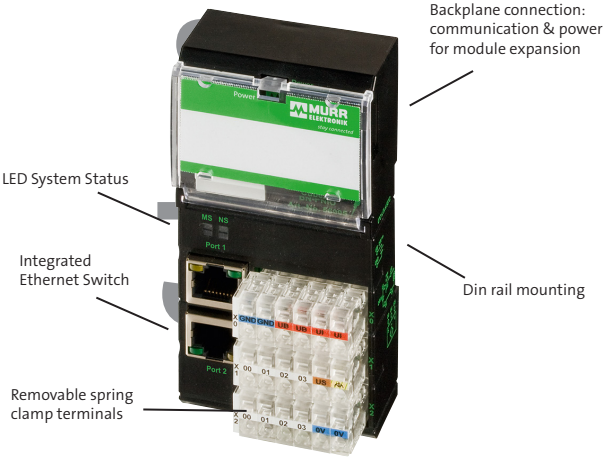
Cube20 is an IP20 rated in-cabinet I/O system designed for ease of installation with a high I/O density in a single space. It can connect up to 15 I/O modules, which gives you up to 488 I/O connections within 90cm.

Cube20 was designed to minimize assembly time, so one part number for one I/O module is all that is necessary when ordering. The I/O modules are connected to each other with a built in ribbon cable for backplane communication and power.
Easy to plan, easy to install, easy to adapt.

Available modules include:

- Digital In and Digital Out
- Analog In and Analog Out
- RTD and Thermocouple
- Cube 20/67 Interface

Minimum Space, Maximum Value



- IP20 rating
- Up to 488 I/O connections in 60cm
- Pluggable terminals with spring clamp wire terminations
- Single part numbers - no assembly required
- Backlit LED for diagnostics
- Integrated Ethernet switch
- Up to 15 I/O modules after a bus node
- Configuration tool built in web browser
- Din rail mounting

Digital Input

Digital Output

Digital Input/Output

Analog Input

Analog Output

Cube67 Conversion

Cube20 BN-E DI8 Bus Node

EtherNet/IP

Article Number	**56005**
Fieldbus	
Nominal Voltage	24V DC (18-30.2V), acc. to EN61131-2
Current Consumption	max. 150mA
Transfer Rate	10/100Mbit/s Full Duplex
Addressing	DHCP, BOOTP or IP address via rotary switch
I/O Capacity	Modular expandability up to max. 15 Cube20/67 modules
Inputs	
Nominal Voltage	24V DC (18-30.2V), acc. to EN61131-2
Connections	Pluggable spring clamp terminal; ≤ 12A, max. 2.5mm²
Digital Inputs	8
Sensor Supply U_S	24V DC (18-30.2V), acc. to EN61131-2 ≤ 700mA per module, short circuit and overload protected
Diagnostic Input	Module related monitoring of actuator supply with diagnostic via the fieldbus and LED status indication
Dimensions (H x W x D)	117 x 56 x 47mm

	Cube20 DI32	**Cube20** DI16 DO16	**Cube20** DO32
			
Article Number	**56112**	**56168**	**56118**
Inputs			
Number	32	16	
Sensor Voltage (U_I)	24V DC (18-30.2V), acc. to EN 61131-2 via pluggable spring clamp terminals, max. 2.5 mm²		
Sensor Supply (U_S)	24V DC (18-30.2V), acc. to EN61131-2 ≤ 700mA per module, short circuit/overload protected		
Type	PNP acc. to EN61131-2		
Status Indicator		LED yellow / input	
Input Filter	1ms	1ms	
Diagnostic Input	Module related monitoring of actuator supply with diagnostic via the fieldbus and LED status indication		
Outputs			
Number		16	32
Actuator Voltage (U_A)		24V DC (18-30.2V), acc. to EN 61131-2 via pluggable spring clamp terminals, ≤ 12A, max. 2.5 mm²	
Switching Current/Output		.5A, Short circuit and overload protected	
Lamp Load		10W	
Max. Switching Frequency		Resistive load 50Hz, inductive load 5Hz	
Diagnostics		Single channel diagnostic via the fieldbus and LED	
I/O Connection		Spring clamp plug-in terminals max. 2.5 mm²	
Dimensions (H x W x D)	**117 x 56 x 47mm**		

Cube20/67 Interface Module

Article Number	**56140**
Fieldbus	
Nominal Voltage	24V DC (18-30.2V), acc. to EN61131-2
Current Consumption	max. 25mA
I/O Capacity	Modular Cube20/67 fieldbus station: max. 16 modules (Cube20 bus node + 15 Cube20/67 modules)
Cube67 System Supply	
Cube67 Connection	max. 10m
Connections	Pluggable spring clamp terminal; ≤ 12A, max. 2.5mm²
Sensor Supply U_S	24V DC (18-30.2V), acc. to EN61131-2 ≤ 700mA per module, short circuit and overload protected
Actuator Supply U_A	
Module Diagnostics	
Communication	LED Green
Undervoltage Sensor Supply U_S	U ≥ 18V (LED green), U< 18V (LED red)
Undervoltage Actuator Supply U_A	
Dimensions (H x W x D)	**117 x 56 x 47mm**

Cube20s

Murrelektronik's expands its field-tested Cube family with the decentralized Cube20S fieldbus system – a modular and extremely compact system that allows you to buy what you need, when you need it. The space saving modules are only 12.9mm wide and the integrated backplane with power supply allows for quick and easy connections. Simply pull one module out from the terminal and replace it while your wiring and mounting remains unchanged.

PROFIBUS® PROFINET® CANopen EtherNet/IP Modbus

CONNECTION TECHNOLOGY

- Space saving, stair shaped wiring level
- Cage clamps
- Easy exchange of modules
- 2, 4 & 8 channel modules

EASY TO READ

- LED monitoring of diagnostics & channel status
- Labelling strips line up with the LEDs for each channel

INTERFACE MODULES

- Exchangeable power module
- DIP switch with transparent cover for address configuration
- MAC address printed on front
- Potential separation between fieldbus and device level

POWER MODULES

- Color coded for easy recognition
- Separation of potential groups
- Overvoltage Protection

Bus Node Including Power Module		Art. No.
Profibus		57101
CanOpen		57104
Ethernet/IP		57105
Profinet		57106
Modbus TCP		57108
Function Modules Including Base		**Art. No.**
Potential Distributor	8 x 24V DC	57120
Potential Distributor	8 x 0V DC	57121
Potential Distributor	4 x 24V DC + 4 x 0V DC	57122
Power Module: Sensor/Actuator	24V DC/10 A	57130
Power Module: Sensor/Actuator/Bus	24V DC/10 A + 5V DC/2A	57131
Counter Module	1 x 32 Bit (Up to 400 Khz) + 1DO	57160
Counter Module	2 x 32 Bit (Up to 400 Khz)	57162
Digital Input Module Including Base		**Art. No.**
DI2	2 x 24V DC	57220
DI4	4 x 24V DC	57240
DI8	8 x 24V DC	57280
Digital Output Module Including Base		**Art. No.**
DO2 0.5A	2 x 24V DC	57320
DO2 2A	2 x 24V DC	57325
DO2 Relay 3A	2 x 230 AC relay	57327
DO4 0.5A	4 x 24V DC	57340
DO4 2A	4 x 24V DC	57345
DO8 0.5A	8 x 24V DC	57380
Analog Input Modules Including Base		**Art. No.**
AI2 x 16 Bit TH	- 80 - +80mV	57230
AI2 x 16 Bit voltage	U = 0 - 10V	57231
AI2 x 16 Bit current	I = 0(4) - 20mA	57232
Analog Output Modules Including Base		**Art. No.**
AO2 x 16 Bit voltage	U = 0 - 10V	57331
AO4 x 16 Bit voltage	U = 0 - 10V	57361
AO4 x 16 Bit voltage	U = -10 - +10V	57363
Safety Modules Including Base for Profinet/PROFIsafe and Profibus/PROFIsafe		**Art. No.**
FDI4 Safety (Safe Inputs)	4 x 24V DC	57290
FDO4 Safety (Safe Outputs)	4 x 24V DC	57390
Accessories		**Art. No.**
Bus Cover		57190
Shield Bus Bracket Module		57191

Cube67

Cube67+ is an IP67 rated, fully distributed I/O system with proven reliability in industrial applications. The Cube67+ bus node can connect up to 32 I/O modules within a 60m range.

Cube67+ supports multiple protocols including Ethernet/IP, EtherCAT, ProfiBus and ProfiNet. Bus nodes have two power connections as well as two communication ports, giving you the ability to daisy chain multiple devices together with other items on the bus network.

Cube67+ has advanced diagnostic functions including device level LED diagnostics and, with the Ethernet/IP bus node, a built in web browser function is available for both diagnostics and system overview and configuration without the need of a PLC.

Absolute flexibility in system design is achieved with Cube67+. Blending modules between IP67 rated applications and IP20 cabinet solutions allows the user and installer to achieve installation and maintenance in the most efficient ways.

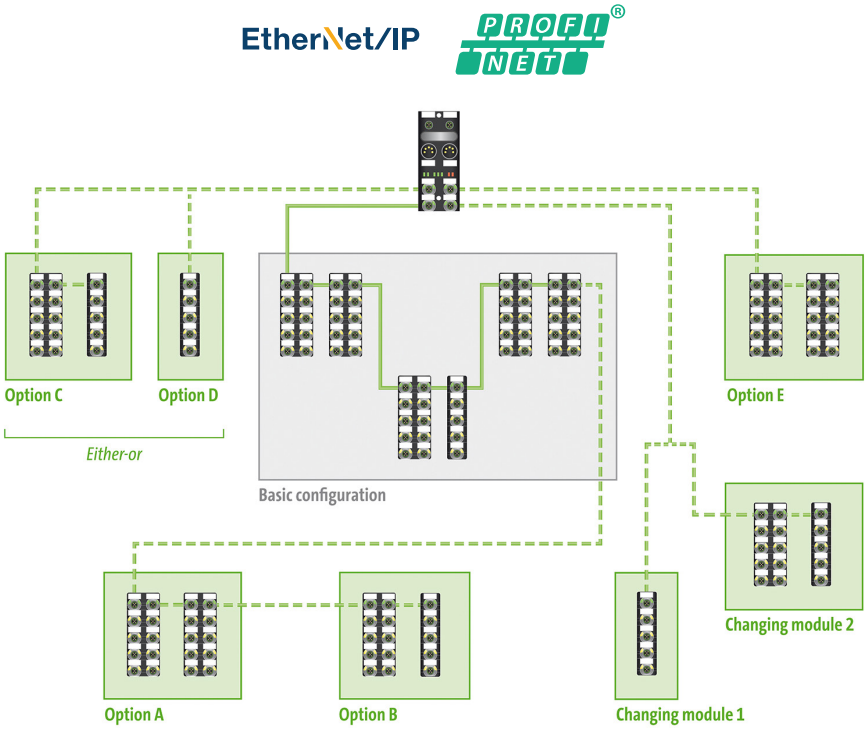
FEATURES

- IP67 rating
- Up to 1024 I/O connections
- Configuration tool with built in web browser
- Device level LED diagnostics
- Short circuit & overload protection
- Robotic rated system cable with power and communication
- Daisy chainable power and communication
- Cube67+: Max. 16 modules per segment or 32 per node
- Cube67+: Max. 30m cable connections/segment or 60m/node

Machine Option Management*

makes it possible to turn different Cube modules on or off while they are running via the controls. This creates the foundation for modular machine configurations, easy tool changes, the possibility to expand the system and optional machine add-on I/Os for sequential commissioning.

MOM reduces project planning and documentation efforts.



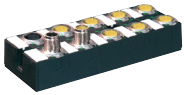
MODULES

Digital Input

Digital Input/Output

Digital Output

IO-Link*



Safety Output

Analog Input

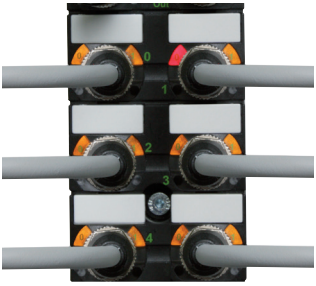
Analog Output

Function Module

*Ethernet/IP and ProfiNet only.

DIAGNOSTICS

Detailed diagnostics that are shown directly on the device with pin-specific LEDs and sent to the controls make it easy to find and fix errors. This gets the system up and running faster and reduces downtime.



MULTIFUNCTIONAL I/Os

Depending on your needs, the ports can be configured as inputs, diagnostic inputs or outputs. This makes it possible to connect many different components onto one module making your system flexible and eliminating the need to order many different modules.

IO-LINK

Embedded IODD Interpreter makes the integration of smart sensors, manifolds, stack lights, drives, and many other devices, seamless. Connect your IO-Link device to one of Cube's 4- or 8-port IO-link masters and configure everything from Cube's web interface.

PLUG AND PLAY

Quick & simple plug connections replace elaborate wiring

- Avoid wiring errors
- Shorten start up time
- Quickly change out cables
- Port Diagnostics

PASSIVE SAFETY FOR OUTPUTS

Safety technology solutions are possible with Cube. M12 outputs and the connections to valve clusters can now be used in machines up to category 3 and Performance Level d (acc. to DIN EN ISO 13849). This makes integrating safety technology easy.

ONE CABLE TECHNOLOGY

Cube67 only needs one system cable. It supplies both power and signal. Pre-assembled cordsets reduce errors. Installations with Cube67 need only half as much space and can be done in half the time.

IP67 to IP20 CONVERSION

A Cube20 station can be added to a Cube67 station through a single cable. This makes installation easier. All signals inside junction boxes and on the field are covered by one single IO system.

VALVE MODULES

There are over 70 different modules for connecting valve manifolds from all major manufacturers. These not only provide flexibility, but also allow you to react quickly to customer requests.

IO-Link
BY MURRELEKTRONIK

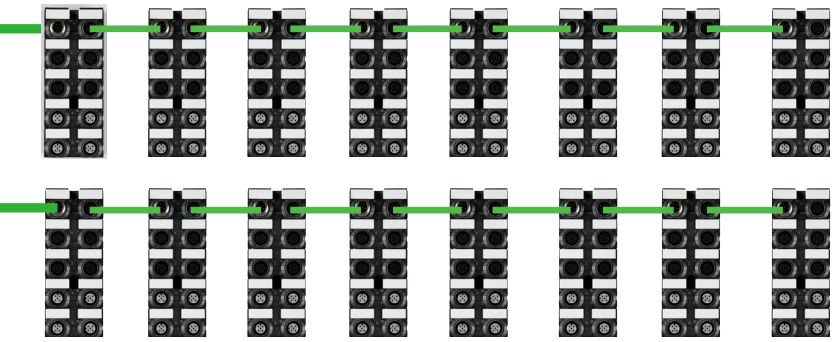
Integration via IO-Link Interface

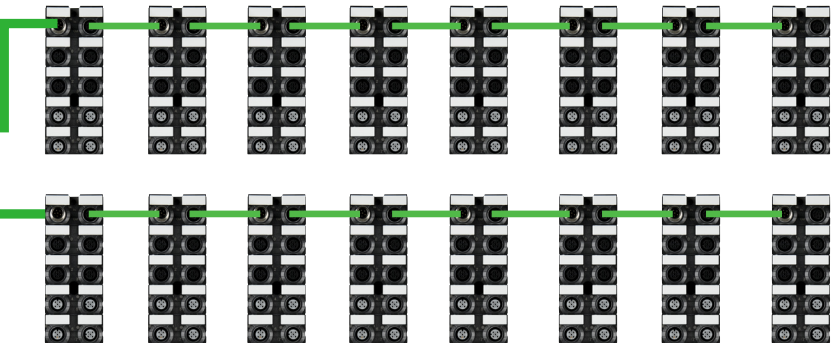
Cube67 with it's IO-Link modules is suited for integration of smart IO-Link sensors. Up to 128 IO-Link devices can be connected to a single node. That is an impressive figure when compared to competitor products! Murrelektronik simplifies installation with a wide range of accessories for IO-Link integration in the form of IO-Link/analog converters, inductive couplers and hubs.


Art. No. 56766

CUBE67 IO-LINK SYSTEM CAPABILITIES

- 256 IO-Link Master Ports Possible
- Class A/B Interchangeable
- 1 IP Address
- IO-Link Expandable +20m
- Integrated IO-Link Configuration Tool





IODD MANAGEMENT For Cube67:

Cube67 Ethernet/IP utilizes a web browser functions that allows for the management of IODD files of IO-Link devices.

All parameters can be managed in one location for all compatible IO-Link devices. No external software is required.

To locate IODD files we recommend you start here with the IO-Link devices located on IODDfinder.com

IODD Files:

Article Numbers

	Protocol	Art. Number
Cube67+ Bus Nodes	Profibus	56521
	Ethernet/IP	56535
	Profinet	56526
	EtherCat	56527
Cube67 Bus Nodes	CANOpen	56504
	DeviceNet	56507

	I/O	Description	Art. Number
Fixed Digital Inputs	DI16	8 x M12	56602
	DI8	4 x M12	56612
	DI8	8 x M8	56622
	DI16 PNP	8 x M12 E	56603
	DI16 NPN	8 x M12 E	56606
	DI8 PNP	4 x M12 E	56613
	DI8 NPN	4 x M12 E	56616
	DI8 PNP	8 x M8 E	56623
	DI8 NPN	8 x M8 E	56626

	I/O	Description	Art. No.
Configurable Digital Inputs/ Outputs	DIO16	8 x M12	56600
	DIO8	4 x M12	56610
	DIO8	8 x M8	56620
	DIO16	8 x M12 1.6A	56640
	DIO8	4 x M12 1A E	56631
	DIO16	8 x M12 E	56601
	DIO8	4 x M12 E	56611
	DIO16/DO16	16 x M12 1.6/2A E	56641
	DIO32	16 x M12 .5A	56642
	DIO8	8 x M8 E	56621

	I/O	Description	Art. No.
Configurable Digital Inputs/ Outputs	DIO8 DI8	TB Box E	56681
	DIO8 DI8	TB Box E	5668100
	DIO8 DI8	TB Rail E	56691
	DIO8	M16 .5A E	56663
	DIO8	Cable M12 ID E	5666500
	DIO8	Cable .5m E	56661
	DIO8	Cable 2m E	5666100
	DIO16	Cable .5m E	56662
	DIO16	Cable 1.5m E	5666200
	DI16/DO16	Cable .5m E	56671

	Description	I/O	Art. Number
Digital Outputs for Valve Manifolds **Expansion Modules (E)**	Valve module with .5m cable with flying leads	DO8	56655
		DO16	56651
		DO32	56656
	Bosch HF02/03-LG, HF04 (Sub D-25)	DO32	5665606
	Bosch HF02/03-LG (Sub D-44)	DO32	5665617
	Festo CPA	DO24	5665605
	Festo CPA-SC	DO32	5665615
	Festo CPV	DO8	5665500
	Festo CPV (Sub D-9)	DO8	5665501
	Festo CPV	DO16	5665100
	Festo CPV (Sub D-15)	DO16	5665102
	Festo CPV (Sub D-26)	DO16	5665103
	Festo MPA	DO8	5665502
	Festo MPA	DO16	5665118
	Festo MPA	DO24	5665601
	Festo MPA-L	DO32	5665616
	Festo MPA-L (SubD-25)	DO32	5665619
	Festo VTSA	DO16	5665105
	Festo VTSA	DO20	5665613

AI = Analog Input
AO = Analog Output

DI = Digital Input
DO = Digital Output
DIO = Configurable Channels

E = Expansion Modules

(I) = Current
(U) = Voltage

Cube67

	Description	I/O	Art. Number
Digital Outputs for Valve Manifolds **Expansion Modules (E)**	M12 Modlight	DO7	5665503
	MAC Valves	DO16	5665116
	MAC Valves	DO32	5665609
	Metal Work HDM	DO16	5665106
	Norgren V20,V22	DO16	5665110
	Norgren V20,V22C	DO16	5665115
	Norgren V20, 22B	DO16	5665112
	Norgren VM10	DO16	5665111
	Norgren VM10	DO24	5665600
	Norgren VM10	DO32	5665603
	Numatics Generation 2000	DO22	5665618
	Parker Series V	DO16	5665101
	SMC Series SV	DO32	5665604
	SMC Series SV,VQ, SY (Sub D-25)	DO23	5665113
	SMC Series VQC (M27)	DO16	5665114
	SMC Series VQC (M27)	DO24	5665607
	SMC Series VQC (Sub D-25)	DO24	5665614
	Vesta (Sub D-25)	DO24	5665611
	Vesta (Sub D-37)	DO32	5665610

	I/O	Description	Art. No.
Safety Outputs	DO8	Valve K3 C	5665003
	DO16	Valve K3 C	56650
	DO6/DO6	6xM12 K3 C	56605

	I/O	Description	Art. No.
Cube67 Function Modules	CNT2	4 x M12 C	56750
	DIO4 RS485	3 x M12 E	56760
	Encoder	4 x M12 E	56753

	I/O	Description	Art. No.
Cube67+ Function Modules	DIO12 IOL4	8 x M12 E	56766
	DIO4 RS232/485	4 x M12 E	56761
	IOL8DIO8	8 x M12 E*	56768

*Compatible with ProfiNet only (56526)

	I/O	Description	Art. No.
Analog Inputs	AI4	4 x M12 (I) C	56730
		4 x M12 (U) C	56700
		4 x M12 RTD C	56740
		4 x M12 TH C	56748
		4 x M12 (I) E	56731
		4 x M12 (U) E	56701
		4 x M12 RTD E	56741
		4 x M12 TH E	56749

	I/O	Description	Art. No.
Analog Outputs	AO4	4 x M12 (I) C	56720
		4 x M12 (U) C	56710
		4 x M12 (I) E	56721
		4 x M12 (U) E	56711

AI = Analog Input
AO = Analog Output

DI = Digital Input
DO = Digital Output
DIO = Configurable Ports

C = Compact Modules
E = Expansion Modules

(I) = Current
(U) = Voltage

Impact67

Economic Decentralization

Impact67 is the ideal fieldbus solution for applications that require cost-effective basic functionality. Impact67 is the right choice for an electrical engineer whose objective is minimizing costs while maintaining digital inputs and outputs under ordinary environmental conditions. Many applications are possible for Impact67 including plant engineering (logistics, waste treatment, palletizing), non-cutting metal industry (sheet metal working, robotics, wood processing), as well as the material-handling industry.

Impact67 modules are available for all major protocols: Profinet, Profibus, CanOpen, DeviceNet, EtherCat and EtherNet/IP.

Focus on essentials...

- **Predefined inputs and outputs**
  Help facilitate configuration

- **Single channel diagnostic via LED**
  Don't look for errors, find them!

- **Group diagnostic via the bus**
  Easy, remote diagnostics

- **Port-related cutoff**
  Only the failed port is cutoff.

Ethernet/IP Configurable Model

- 16 Configurable Signals (1.6A Outputs)

Features:

- Completely configurable I/O ports
- Configurable pin assignment (Port or pin based) using internal web server or downloadable EDS file
- Built in web server allows configuration and troubleshooting without PLC
- Built in Ethernet Switch and Power T-Coupler allow daisy chain communication and power
- Extensive diagnostics with LEDs (port level for inputs, pin level for outputs)
- Fully potted - robust - shock and vibration resistant

	IMPACT67-P	IMPACT67-C
	PROFIBUS	CANopen
Ordering Data	**Art. Number**	**Art. Number**
16 Digital Inputs	55345	55075
8 Digital Inputs, 8 Digital Outputs 2A	55346	55076
8 Digital Outputs 2A	55347	55077
16 Digital Outputs 0.5A	55348	55078
16 Config. Signals 1.6A		
Fieldbus		
Connection	M12, B-coded	M12, A-coded
Transfer Protocol	Profibus-DP	CANopen
Addressing	0 - 99 via rotary switch	
Transfer Rate	up to 12Mbit/s	up to 1Mbit/s
Supply Voltage		
Connection*	7/8“ connection; 5-pole; U_A max. 9A, U_s max. 9A (Art. No. 5	
Operating Voltage	24V DC (18 - 30.2V), acc. to EN61131-2	
I/O Ports		
Connection	M12 connection, A-coded	
Inputs	for 3-wire sensors or mech. switches	
Sensor Supply	24V DC (18 - 30.2V), acc. to EN61131-2, <= 200mA/Port	
Outputs	Semiconductor output short-circuit/overload protected, w	
Overload Cutoff	Port-Related	
Module Diagnostic		
Fieldbus	RUN-LED	
Voltage Supply	LED, alarm via the bus	
I/O Overload	LED on the port, group alarm via the bus	
Dimensions (HxWxD)	225 x 63 x 50.5mm	

IMPACT67-PNIO	IMPACT67-E	IMPACT67-EC
Art. Number	Art. Number	Art. Number
55091	55085	55081
55092	55086	55082
55093	55087	55083
55094	55088	55084
	55089	
	55142*	
M12 D-coded		
Profinet	Ethernet IP	EtherCat
Automatic	Via rotary switch	Automatic
10/100 Mbit/s, Full Duplex	up to 100Mbit/s, Full Duplex	up to 100Mbit/s
55142 = 7/8“ connection; 4-pole; U_A max. 9A, U_S max. 9A)		
with .5A or max. 2A		

MVK

MAXIMUM FLEXIBILITY – THROUGH MULTIFUNCTIONAL I/O
Both signals on each M12 port can be configured independently, whether input, output or diagnostic input. Now, modules can be used more efficiently.

- Double valves only use one M12 port
- A single module for inputs and outputs
- No unplanned reserves
- Maximum flexibility for expansion
- Fewer variations required minimizing inventory costs

DON'T LOOK FOR ERRORS, FIND THEM – TOTAL DIAGNOSTICS
That means detailed information on the types and locations of errors.

- Only the affected port is switched off and not the complete module
- Detailed message to the control + LED on-the-spot
- Errors are found more rapidly, problems are solved faster: this minimizes system downtime and shortens start-up time

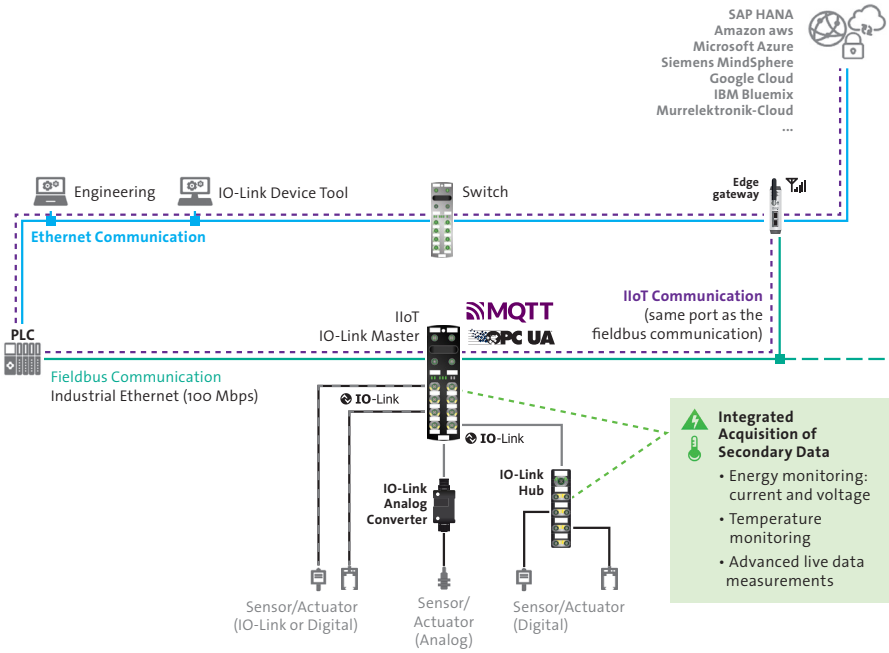
DURABLE
- Weld spark resistant metal housing
- Fully potted for maximum protection against shock and vibration
- Resistant to a whole series of coolants and lubricants

Article Number	ProfiNet	ProfiBus	CanOpen	Ethernet/IP
DI8 (DI8)	54530	55307	55304	
DIO8 (DI8)		55308	55305	
DIO8 (DIO8)	55530	55309	55306	55099
DO8 (DO8)	54532	55290		
DO4 (DO4) DI4 (DI4)	54531	55274		
Fieldbus				
Connection	M12, D-coded	M12, B-coded	M12, A-coded	M12, D-coded
Addressing	DCP	0-99 via rotary switch	1-99 via rotary switch	rotary switch
Transfer Rate		up to 12 Mbit/s	up to 1 Mbits	up to 100 Mbits
Supply Voltage				
Connection	7/8", 5-pole, max 9A			
Supply Voltage	24 V DC (18-30.2 V), acc. to EN61131-2			
I/O Ports				
Connection	M12, A-coded			
Digital Inputs	acc. to EN61131-2, sensor supply < 200 mA/port			
Multifunctional Channels	8 M12 ports (black) each 2 digital inputs/outputs to EN61131-2, current capacity per output up to 1.6 A, sensor supply < 200 mA/port			
Outputs	output loads up to 1.6 A/channel			
Module Diagnostic				
Filedbus	LED, according to standards			
Under Voltage Sensor/System/ Actuator	US < 18 V (LED red)/UA< 18 V (LED red)			
Periphery	port-related LED (red)			
Dimensions				
H x W x D	225 x 63 x 39 mm	225 x 63 x 50.5 mm		

Impact67 Pro

IMPACT67 Pro and MVK Pro are the latest addition to Murrelektronik's IP67 rated I/O system. Each is equipped with eight IO-Link master ports. The L-coded M12 ports allow for 2 x 16A power daisy--chaining and up to 10A for outputs.

By taking full advantage of IO-Link capabilities, the system makes it easy to get the needed input and output data from your machines and systems. With our IO-Link hubs and analog converters, you can easily connect digital and analog signals to the IO-Link master using a standard sensor cable. This not only reduces your cabling effort but also simplifies commissioning, service and diagnostics.



Flexible Class A/B Ports

- 8 x IO-Link Class A/B master ports with true DIO functionality – one module for everything: 16 DI, 16 DIO, 16 DO, 8 IOL or any combination
- Intelligent supply voltage switching at pin 2 and 4
- Up to 4A per port (up to 2A each at pins 2 and 4).

Maximum Performance

- 2 x L-coded M12 for daisy-chainable installations
- 4 & 5-pole cable options for any installation concept
- Up to 10A for outputs & 2 x 16A daisy-chain

EtherNet/IP

EtherCAT

PROFINET

Global Deployment

- 2 x D-coded M12, 100 Mbps
- EtherNet/IP, EtherCAT, ProfiNet
- Rotary switches (for IP setting)
- Automated, network-wide firmware updates via Murrelektronik's AutoUpdateX tool
- IO-Link master with OPC UA and MQTT

Rugged Housing

- Fully potted housings (Impact67 Pro - plastic, MVK Pro - metal)
- IP65, IP67 rated

User Friendly

- Real time power and data monitoring: current, voltage, temperature, min/max values, etc.
- Quick and easy configuration with the integrated Murrelektronik webserver
- Complementary IO-Link device tool for configuring IO-Link devices
- Extended channel diagnostics

	MVK Metal Pro			
	ProfiNet DIO8 IOL8 4P	**ProfiNet DIO8 IOL8 5P**	**Ethernet/IP DIO8 IOL8 5P**	**EtherCAT DIO8 IOL8 5P**
				
Article Number	54600	54610	54611	54612
Output				
Actuator Supply (UA)	24 V DC (EN 61131-2), max. 10 A Port X0...X7			
Input				
Type	for 3-wire sensors or mechanical switches, PNP, IO-Link Devices			
IO-Link				
Specification	IO-Link Master V1.1.3			
Port Class	8 x configurable A or B			
Process Data	up to 32 Byte (In) and 32 Byte (Out) per IO-Link port			
Transfer Rate	COM1; COM2; COM3 (automatic)			
Connections				
Fieldbus	Ethernet 10/100 Mbit/s; M12, D-coded			
Supply (L-coded M12 Power, 2 × max. 16A)	4-pole	5-pole		
I/O Ports (A-coded M12)	5-pole			
Technical Data				
Temperature Range	-25 to 70°C			
Dimensions (H x W x D)	225 x 63 x 43mm			

IODD MANAGEMENT

We recommend the following tool be considered when setting the system parameters for IO-Link Devices on our hardware platforms:

For Impact67/MVK
The use of an external software tool is needed to set the parameters of the IO-Link Device. The IODD file needs to be imported into this software tool before using with a PLC.

IO-Link Tool:

	Impact67 Pro			
	ProfiNet DIO8 IOL8 4P	**ProfiNet DIO8 IOL8 5P**	**Ethernet/IP DIO8 IOL8 5P**	**EtherCAT DIO8 IOL8 5P**
				
Article Number	54620	54630	54631	54632
Output				
Actuator Supply (UA)	24 V DC (EN 61131-2), max. 10 A Port X0...X7			
Input				
Type	for 3-wire sensors or mechanical switches, PNP, IO-Link Devices			
IO-Link				
Specification	IO-Link Master V1.1.3			
Port Class	8 x configurable A or B			
Process Data	up to 32 Byte (In) and 32 Byte (Out) per IO-Link port			
Transfer Rate	COM1; COM2; COM3 (automatic)			
Connections				
Fieldbus	Ethernet 10/100 Mbit/s; M12, D-coded			
Supply (L-coded M12 Power, 2 × max. 16A)	4-pole	5-pole		
I/O Ports (A-coded M12)	5-pole			
Technical Data				
Temperature Range	-25 to 70°C			
Dimensions (H x W x D)	225 x 63 x 43mm			

Hubs

Versatile and Universal

- IO-Link Version 1.1

Optimal Diagnostics

- Simple, channel-granular diagnostics
- Disabling of individual channels in case of error

Passive safety up to PL d (EN ISO 13849-1)

- The DI8-DO8 outputs can be safely shut off up with Murr's MIRO SAFE+ relay

With Murrelektronik's IO-Link hubs, several digital sensors & actuators can easily be connected via a standard sensor cable to an IO-Link master.

In conjunction with MVK Metal and Impact67 (Murrelektronik's IO link masters), the MVP12-Metal IO link hubs help keep machine and plant downtimes to a minimum. They can automatically transmit detailed diagnostic data, down to the individual channel, directly to the control unit without parameterization. If an error occurs, the affected hub port is disabled.

Metal Hubs	**MVP12-M DI8 DO8 IOL K3**	**MVP12-M DI16 IOL**
Article Number	55518	55519
IO-Link (M12)		
Specification	Version 1.1	
Port Class	B (Galv. Separation)	A
Transfer Rate	COM2 (38.4 KBaud)	
Input (M12)		
24V DC (EN 61131-2), PNP (EN 61131-2), Type 3, max. 100mA (short-circuit & overload protected)*	8x	16x
Output (M12)		
24V DC (EN 61131-2) max. 4A, max. 0.4A/channel (short-circuit & overload protected)	8x	
Mechanics		
Shock (EN 60068) Part 2-27	50g	
Operating Temperature	-25° to +70°C	

* A driver performance of 1A on PIN 1/3 of the IO-Link Master is recommended

MVP8 & MVP12

With the Murrelektronik MVP8 and MVP12 IO-Link hubs, several digital sensors and actuators can be easliy connected to an IO-Link master via a standard sensor cable. These hubs are an economical solution for a high-quality decentralized installation.

Universal
- IO-Link Version 1.1

Optimal Diagnostics
- Channel granular shut off in the event of a short circuit

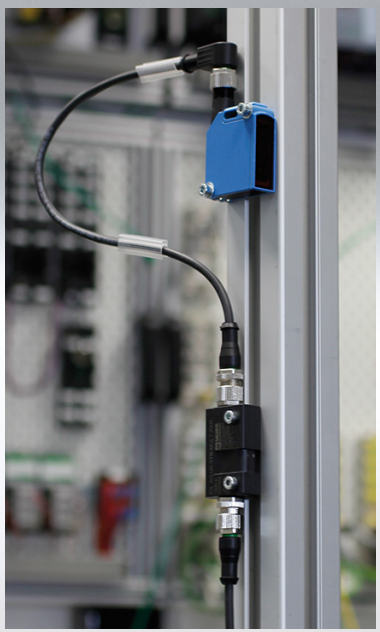
	DI16 B0	DIO16 B0	DIO8 DIO8 B0	DI8 DO8	DIO8 B0
Article Number	59710	59719	59718	59402	59507
Type	Plug & Play				
Connections					
IO-Link	M12 3-pole A-coded		M12 5-pole A-coded	M12 3-pole A-coded	
I/O Ports	5-pole A-coded M12				3-pole M8
IO-Link					
Port Class	A		B	A	
Transfer Rate	COM3 (230.4 kBaud)			COM2 (38.4 kBaud)	COM3 (230.4 kBaud)
Diagnostic					
Communication Status	via LED, Process data and IO-Link events				
Diagnostic via LED	module and channel status				
Input					
Switching Current (max.)	0.5A per port			0.1A per port	1A per 2 ports
Output					
Switching Current/ Output (max.)		0.5A per channel	2A per channel	0.4A per channel	0.5A per channel
General Data					
Temperature Range	-25° to +70°C				
Protection	IP65, IP67, IP68				
Dimensions (HxWxD)	126 x 50 x 34.5mm				126 x 30 x 34.5mm

DIO4 DIO4 Bo	DI16 Eo	DIO16 Eo	DIO8 DIO8 Eo	DIO8 Eo	DIO4 DIO4 Eo
59504	59810	59819	59818	59607	59604
	Extended Parameters				
M12 5-pole A-coded	M12 3-pole A-coded		M12 5-pole A-coded	M12 3-pole A-coded	
3-pole M8	5-pole A-coded M12			3-pole M8	
B	A		B	A	
COM3 (230.4 kBaud)					
via LED, Process data and IO-Link events					
module and channel status					
1A per 2 ports	0.5A per port			1A per 2 ports	
2A per channel		0.5A per channel	2A per channel	0.5A per channel	2A per channel
-25° to +70°C					
IP65, IP67, IP68					
126 x 30 x 34.5mm	126 x 50 x 34.5mm			126 x 30 x 34.5mm	

	AI-Multi4 E0	AI-RTD4 E0	DIO8 DIO8 B0	DIO8 DIO8 B0
Article Number	59840	59841	59738	59728
Type	Extended Parameters		Plug & Play	
Connections				
IO-Link	M12 3-pole A-coded			
Auxiliary Power			M12 5-pole L-coded	M12 4-pole L-coded
I/O Ports	M12 3-pole A-coded	M12 4-pole A-coded	M12 5-pole A-coded	
IO-Link				
Port Class	A			
Transfer Rate	COM3 (230.4 kBaud)			
Diagnostic				
Communication Status	via LED, Process Data and IO-Link Events			
Diagnostic via LED	Module and Channel status			
Input				
Switching Current (max.)			0.5A per channel	
Signal Type	0..20mA, 4..20mA, 0..10V, -10..10V	PT100, PT100 climate, PT200, PT500, PT1000, NI100, NI120, NI200, NI500, NI1000, 0..3KΩ	up to 16 DI	
Output				
Switching Current (max.)			2A	2A + 4 channels rated at 4A
Galvanic Separation				Between UL1, UL2 and sensor
General Data				
Temperature	-25° to +70°C			
Protection	IP65, IP67, IP68			
Dimensions (HxWxD)	126 x 29x78 x 34.3 mm		126 x 50 x 34.5 mm	

DIO16CGND Bo	DIO8 DIO8 Eo	DIO8 DIO8 Eo	DIO16CGND Eo
59712	59838	59828	59812
Plug & Play	Extended Parameters		
M12 5-pole A-coded	M12 3-pole A-coded		M12 5-pole A-coded
	M12 5-pole L-coded	M12 4-pole L-coded	
B	A		B
COM3 (230.4 kBaud)			
via LED, Process Data and IO-Link Events			
Module and Channel status			
0.5A per channel			
up to 16 DI			
2A		2A + 4 channels rated at 4A	2A
	Between UL1, UL2 and sensor		
-25° to +70°C			
IP65, IP67, IP68			
126 x 50 x 34.5 mm			

Analog Converter



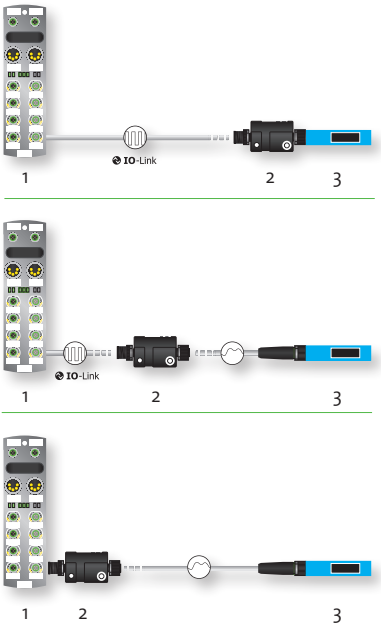
The IO-Link analog converter can be used to quickly and easily connect analog devices to an IO-Link master. It converts the analog signal to the IO-Link protocol. This makes it possible for a series of sensors and actuators to be used in a variety of IO-Link applications without having to be repeatedly integrated into installation concepts.

IO-LINK ANALOG CONVERTER

- Fixed or Configurable Models Available
- Makes **ANY** standard analog sensor/ actuator IO-Link compatible
- Connect several analog signals to one IO-Link master
- "Plug & Play" = Quick transition from analog to IO-Link
- Connects with Standard M12 Cables
- Unshielded connections possible
- Extensive diagnostic options via IO-Link and built-in LEDs

16 bit Conversion Speed

		IO-Link Analog Converter	
Process Value	**Analog Value**	**IO-Link**	**Control System**
0 - 10bar →	4 - 20mA →	16 bit →	0 - 10bar



On-site installations take advantage of standard cordsets

The IO-Link analog converter can be installed in the field either in the immediate vicinity of the analog sensor or actuator or directly on the analog device. As a result, the converted signal can be transmitted to the IO-Link master module over distances of up to 20m using a standard, unshielded cable.

If the sensor or actuator is in the immediate vicinity, the converter can be mounted on the IO-Link master itself.

Integrated fastening holes for in-line mounting allow both variable and torsion-resistant fastening of the converter while simultaneously serving as a functional earth connection.

1. IO-Link Master
2. IO-Link Analog Converter
3. Analog Sensor

ANALOG INPUT

Description	Signal Type	Article Number
M12 straight, 16 -bit, IP65/67, IO-Link V1.1, Class A	0 - 20mA	5000-00501-1100000
	4 - 20mA	5000-00501-1110000
	0 - 10V	5000-00501-1200000
	-10±10V	5000-00501-1210000
	0 - 20mA, 4 - 20mA, 0 - 10V, -10±10V	5000-00501-1300001
	Thermocouple	5000-00501-1400001
	RTD	5000-00501-1500001

ANALOG OUTPUT

Description	Signal Type	Article Number
M12 straight, 16 -bit, IP65/67, IO-Link V1.1, Class A	0 - 20mA	5000-00501-2100000
	4 - 20mA	5000-00501-2110000
	0 - 10V	5000-00501-2200000
	-10±10V	5000-00501-2210000
	0 - 20mA, 4 - 20mA, 0 - 10V, -10±10V	5000-00501-2300001

Control Devices

Perform simple control tasks with our compact push buttons with a built in IO-Link interface.

With the aid of Murrelektronik's IO-Link enabled command devices, simple control tasks can be performed on site. The push buttons, with an IP65 rated housing, are ideal for connecting to standard aluminium profiles.

These compact IO-Link command devices have an M12 connection that allows them to be easily connected. Thanks to their IO-Link interface, they can be integrated into any interface and can be customized remotely with a wide range of functions.

- **Economical:** Lower your on hand inventory thanks to a wide range of configuration options for push button colors, brightness and flashing modes
- **Clear:** Laser printer compatible label sheets (sold separately) for labelling buttons
- **Practical:** Connects to standard aluminium profiles
- **Communication:** IO-Link enabled
- **Sealed:** IP65 rated housing
- **Secure wiring:** Quick and easy connection via an M12 port

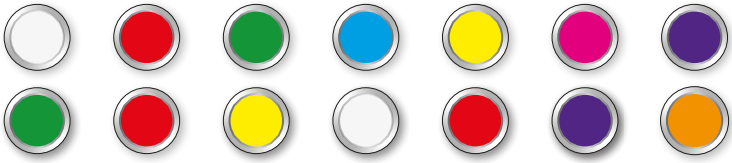
IO-Link 1 P-Button 42
1NO L M12(4)

IO-Link 2 P-Button 42
2NO L M12(4)

Approvals

Art. No.	69200	69202
General Info		
Button	IO-Link device with one button (1 NO contact)	IO-Link device with two buttons (2 NO contacts)
Lighting	IO-Link LED, per button RGB LED	
Operating temperature	-30 °C to +60 °C	
Connection	4-pole, A-coded M12	
Mounting method	Mounting clip	
Protection	IP65	
Dimensions (H x W x D)	35.6 x 40 x 123.2mm	
Accessories		
Laser printer compatible label sheet with 54 labels		Art. No. 69142

Button Configuration Options



Blink modes
Four different blink modes for different applications.

Dimming modes
Adjust the brightness of the RGB LEDs to fit the needs of the installation environment.

Color Options
Choose from five standard or three individually adjustable RGB colors (from a color palette of 16 million colors) for each button.

Xelity

Introducing the Xelity® family of Ethernet switches from Murrelektronik. Designed and produced in Germany, these high quality switches are available in three styles, IP20 Unmanaged, IP20 Managed and IP67 Managed. Each group has models with up to 10 ports of connectivity. Utilizing either RJ45 (IP20 Managed and Unmanaged) or M12 (IP67 Managed) connections, these switches make installations simple and reliable. Their numerous approvals (uULus, CE, UKCA, REACH, WEEE) and wider temperature range enables the Xelity® family to be used worldwide.

IP20 UNMANAGED

Features Include:

- **Fast Ethernet (Art. No.: 58810, 58811, 58812):** 10/100BaseT(X) (RJ45), Full/Half-Duplex
- **Gigabit (Art. No.: 58813, 58814, 58815):** 10/100/1000BaseT(X) (RJ45), Full/Half-Duplex

Quick and easy installation
No programming required
Simple device replacement
Variety of models available
Prioritization of PROFINET telegrams

Article Number	58810	58811	58812	58813	58814	58815
Ports	4 x RJ45	6 x RJ45	8 x RJ45	4 x RJ45	6 x RJ45	8 x RJ45
Temperature Range	-25 - 60°C (storage temp. -40 - 85°C)			-40 - 75°C (storage temp. -40 - 85°C)		
Dimensions (H x W x D)	140 x 30 x 85.1mm		105 x 41.6 x 85.1mm	140 x 30 x 85.1mm		105 x 41.6 x 85.1mm
Status Display	LED					
Operating Voltage	9.5 - 30V DC					
Connection	Push-in spring clamp terminal (FKDSO 2.5/L1)					
Transfer Rate	10/100Mbit/s full/half duplex			10/100/1000Mbit/s full/half-duplex		
Mounting	DIN Rail Mounting					
Housing	Black Plastic					
Approvals	cULus, CE, RoHS			cULus, UKCA, CE, KC, RoHS, REACH, WEEE		

IP20 MANAGED

Features Include:

- VLAN management
- MicroSD card slot on the back, for saving the configuration
- NAT (Network Address Translation) for Non-ProfiNet switches
- TIA portal integration via GSDML file for ProfiNet switches
- Fast Gigabit data transfer rate
- Additionally supports LLDP, RSTP, SNMP v1/v2/v3, QoS, MRP(Profinet)

Article Number	58820	58821 (Profinet)	58822	58823 (Profinet)	58824	58825 (Profinet)
Ports	4 x RJ45		6 x RJ45		8 x RJ45	
Temp. Range	-40 - 70°C (storage temperature -40 - 85°C)					
Dim. (H x W x D)	140 x 30 x 85.1mm				105 x 41.6 x 85.1mm	
Status Display	LED					
Operating Voltage	9 - 30V DC					
Connection	Push-in spring clamp terminal (FKDSO 2.5/L1)					
Transfer Rate	10/100/1000 Mbit/s full/half-duplex					
Mounting	DIN Rail Mounting					
Housing	Gray Plastic					
Approvals	ULus, UKCA, CE, KC, RoHS, REACH, WEEE					

Murrelektronik's Xelity 10 TX IP67 switch opens up smart, decentralized data management for IIoT. With this managed switch, fail-safe networks can be implemented under the most difficult conditions in the most diverse application scenarios – including fast data flow rates of up to 10 x Gigabit in one switch. The biggest benefit is the availability of 10 ports in an enormously small, but very robust, IP67 rated metal housing.

- Three models:
  10 x 100 Mbit/s
  10 x 1000 Mbit/s,
  2 x 1000 Mbit/s + 8 x 100 Mbit/s
- 4 or 5-pole L-coded M12 Power Connection
- IP67 rated metal housing
- Shock and vibration proof
- Standard managed or ProfiNet managed
- With / without functional ground (4/5-pole)
- "Power Out" connection for power forwarding
- Standard managed version supports NAT and VLAN functionality
- Automatic neighborhood detection (LLDP)

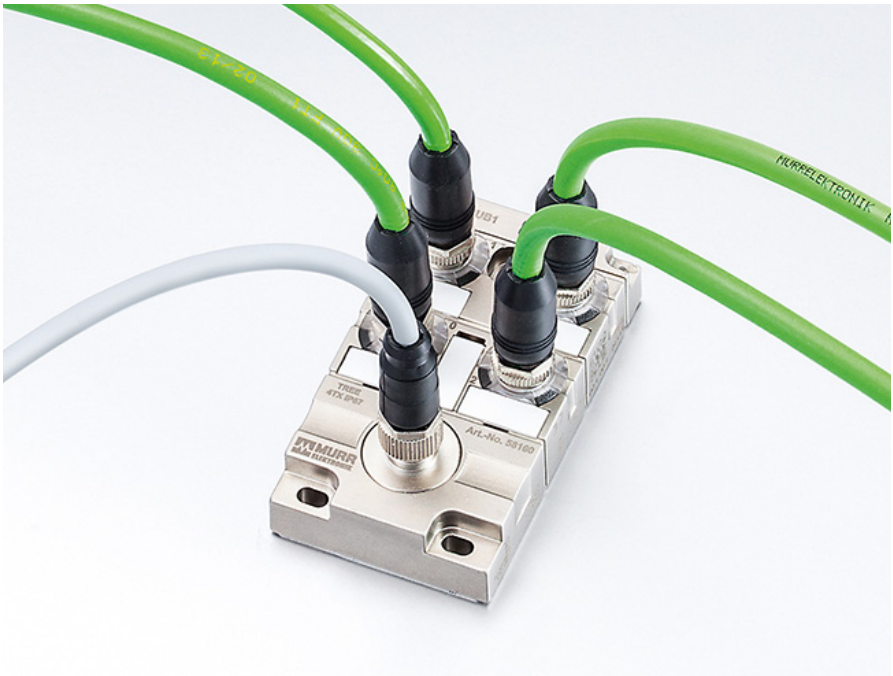
Article Number	58840	58841	58842
Ports	10× M12, D-coded		2× M12 X-coded, 8× M12 D-coded
Supply Connection	2× M12 Power 4-pole, L-coded 2 x max 16 A		
Protocol	Ethernet	Profinet/Ethernet	Ethernet
Transfer Rate	10/100Mbit/s full/half duplex		10/100/1000 Mbit/s full/half duplex
Temperature Range	-25 - 55 °C (-25 - 70 °C with derating) / -40 - 85 °C storage temperature		
Dimensions (H x W x D)	224.5 x 63 x 37.4mm		
Operating Voltage	9 - 30V DC		
Approvals	uULus, CE, UKCA, REACH, WEEE		

Article Number	58843	58844	58845
Ports	2× M12 X-coded, 8× M12 D-coded	10× M12 X-coded	
Supply Connection	2× M12 Power 4-pole, L-coded 2 x max 16 A		
Protocol	Profinet/Ethernet	Ethernet	Profinet/Ethernet
Transfer Rate	10/100/1000 Mbit/s full/half duplex		
Temperature Range	-25 - 55 °C (-25 - 70 °C with derating) / -40 - 85 °C storage temperature		
Dimensions (H x W x D)	224.5 x 63 x 37.4mm		
Operating Voltage	9 - 30V DC		
Approvals	uULus, CE, UKCA, REACH, WEEE		

Article Number	58850	58851	58852
Ports	10× M12, D-coded		2× M12 X-coded, 8× M12 D-coded
Supply Connection	2× M12 Power 5-pole, L-coded 2 x max 16 A		
Protocol	Ethernet	Profinet/Ethernet	Ethernet
Transfer Rate	10/100Mbit/s full/half duplex		10/100/1000 Mbit/s full/half duplex
Temperature Range	-25 - 55 °C (-25 - 70 °C with derating) / -40 - 85 °C storage temperature		
Dimensions (H x W x D)	224.5 x 63 x 37.4mm		
Operating Voltage	9 - 30V DC		
Approvals	uULus, CE, UKCA, REACH, WEEE		

Article Number	58853	58854	58855
Ports	2× M12 X-coded, 8× M12 D-coded	10× M12, X-coded	
Supply Connection			
Protocol	Profinet/Ethernet	Ethernet	Profinet/Ethernet
Transfer Rate	10/100/1000 Mbit/s full/half duplex		
Temperature Range	-25 - 55 °C (-25 - 70 °C with derating) / -40 - 85 °C storage temperature		
Dimensions (H x W x D)	224.5 x 63 x 37.4mm		
Operating Voltage	9 - 30V DC		
Approvals	uULus, CE, UKCA, REACH, WEEE		

Tree



Murrelektronik's Tree Ethernet Switches are designed to work in industrial environments that require compliance with UL, CE, FCC, & RoHS Standards. They provide the switching needed to connect Ethernet-based devices to distributed systems and to incorporate Ethernet-based devices and industrial protocols.

- Metal Housing
- M12 Dual Power
- -25°C to 60°C Operation
- 10/100 BASE-TX
- Auto-crossing, Auto-negotiation
- Preferring of PN Data Packets

Article Number	58160	58161
Ports	4 x M12	8 x M12
Temperature Range	-25 - 60°C	
Dimensions (H x D x W)	95 x 55 x 31mm	145 x 55 x 31mm
Status Display	RUN-LED, Link status green yellow per port	
Supply Voltage	18 - 30V DC	
Connection	M12 A-coded Power, D-coded Ethernet	
Transfer Rate	10/100Mbit/s	
Mounting	Screw Holes	
Housing	Metal	
Approvals	cULus	

Xenterra

Xenterra is Murrelektronik's new unmanaged switch family. With a flat design, this robust switch is ideal for panels where space is at a premimum as it can be ordered as a DIN rail mountable version or with wall mounting brackets. Since it is available in your choice of a 5, 8 or 16 port version you can be sure you are getting just what you need for your installation.

	Xenterra 5TX	
		
Article Number	**58900**	**58901**
Ports	5 x RJ45	
Temperature Range	-40 - 70°C (storage temperature -40 - 85°C)	
Dimensions (H x W x D)	105 x 32.5 x 42mm	105 x 69 x 28mm
Status Display	LED	
Operating Voltage	9 - 36V DC	
Connection	Spring Clamp Terminals (.25-1.5mm²)	
Transfer Rate	10/100Mbit/s full or half duplex	
Mounting	DIN Rail	Wall Mount
Housing	Anodized aluminum, stainless steel	
Approvals	cULus	

	Xenterra 8TX	
		
Article Number	**58902**	**58903**
Ports	8 x RJ45	
Temperature Range	-40 - 70°C (storage temperature -40 - 85°C)	
Dimensions (H x W x D)	105 x 32.5 x 58mm	105 x 85 x 28mm
Status Display	LED	
Operating Voltage	9 - 36V DC	
Connection	Spring Clamp Terminals (.25-1.5mm²)	
Transfer Rate	10/100Mbit/s full or half duplex	
Mounting	DIN Rail	Wall Mount
Housing	Anodized aluminum, stainless steel	
Approvals	cULus	

	Xenterra 16TX	
		
Article Number	**58904**	**58905**
Ports	16 x RJ45	
Temperature Range	-40 - 70°C (storage temperature -40 - 85°C)	
Dimensions (H x W x D)	105 x 32.5 x 110mm	105 x 137 x 28mm
Status Display	LED	
Operating Voltage	9 - 36V DC	
Connection	Spring Clamp Terminals (.25-1.5mm²)	
Transfer Rate	10/100Mbit/s full or half duplex	
Mounting	DIN Rail	Wall Mount
Housing	Anodized aluminum, stainless steel	
Approvals	cULus	

PoE

With their modern design, Murrelektronik Tree PoE switches are ideal for industrial applications that require compact solutions. The metal housing can withstand a variety of conditions including power input voltage, shock, drop and vibration. The wide operating temperature range of -40°C to 75°C and compliance with essential sections of UL/CB(IEC) 62368-1, and MIL-STD-810F make this your “go to” when you are looking for a PoE switch.

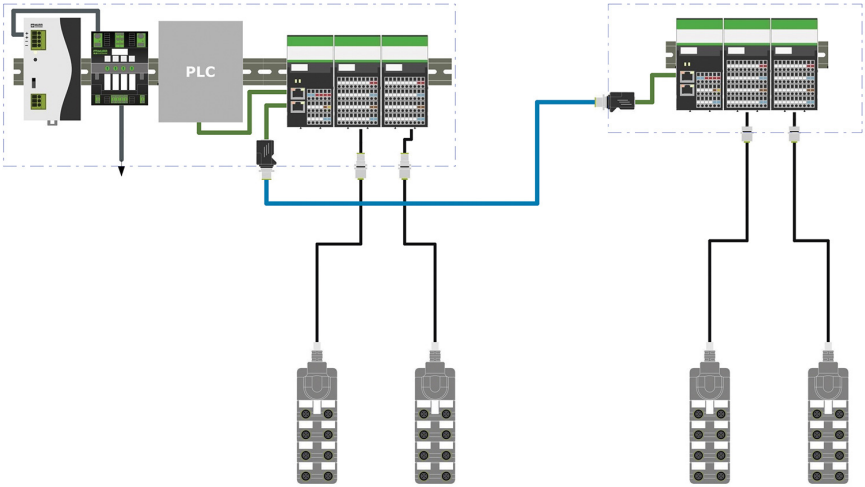
These switches are available with an optional voltage booster for PoE end devices. Available on the 24V models, the PoE Voltage Boost raises the input voltage of power inputs from as low as 12V to provide Power over Ethernet to end devices. This removes the need for additional, separate power inputs, which can often be costly and space-consuming.

The Murrelektronik Tree PoE switches feature up to 8 10/100/1000BASE-T(X). This supports a port configuration mix of up to 8 non-PoE ports and/or 8 x PoE ports, as well as up to two 100 BASE-FX / 1000 BASE-X ports with SFP slots on selected models.

Article Number	58190	58191
Ports	4 x PoE (48V), 1 x non PoE	4 x PoE (48V), 1 x non PoE 1 x SFP
Supply Connector	Screw Terminals (.2-2.5mm²)	
Temperature Range	-40 - 70°C (storage temperature -40 - 85°C)	
Dimensions (H x W x D)	110 x 32 x 90mm	
Status Display	LED	
Operating Voltage	12-57V DC (48V required for PoE)	
Max. Power	130W (45-52V)	
Max. Power/Port	≤ 15.4W (<50V) - 802.3af / ≤ 30W (>51V) - 802.3at	
Jumbo Frames	Yes - 10k Byte	
Transfer Rate	RJ45 10/100/1000Mbps full duplex	RJ45 10/100/1000Mbps SFP 100/1000Mbps full duplex
Mounting	DIN Rail Mounting	
Housing	Metal	
Approvals	cULus	

Article Number	58192	58193	58194
Ports	4 x PoE (48V) 4 x non PoE	8 x PoE	4 x PoE (48V) 4 x non PoE 1 x SFP
Supply Connector	Screw Terminals (.2-2.5mm²)		
Temperature Range	-40 - 75°C (storage temperature -40 - 85°C)		
Dimensions (H x W x D)	145 x 54 x 113mm		
Status Display	LED		
Operating Voltage	12-57V DC (48V required for PoE)		
Max. Power	60W (12-23V) / 120W (24-57V)		
Max. Power/Port	≤ 15.4W (<50V) - 802.3af / ≤ 30W (>51V) - 802.3at		
Jumbo Frames	Yes - 10k Byte		
Transfer Rate	RJ45 10/100/1000Mbps full duplex		RJ45 10/100/1000Mbps SFP 100/1000Mbps full duplex
Mounting	DIN Rail Mounting		
Housing	Metal		
Approvals	cULus		

IN-CABINET IO WITH PASSIVE DISTRIBUTION



In-cabinet IO combined with passive distribution blocks is the first step towards wiring optimization and total cost of ownership reduction. This layout proposes the replacement of IO cards with IP20 remote IO. Using fieldbus or industrial ethernet for the communication between the PLC and the IO allows the use of junction boxes to drastically reduce the cable length from remote IO to sensors/actuators. Passive distribution blocks can be used for both digital and analog signals. The connection between the passible block and sensor is made with M8 or M12 connectors.

Highlights

- High Density IO modules help reduces space required inside enclosure
- Detailed Diagnostics via LED's and built-in webserver allows user to identify fault without having to open any enclosure or junction box
- Built-in Ethernet Switch eliminates the need for additional ethernet switches inside junction boxes
- The ability to connect different signal types reduces the number of IO stations required and improve commissioning and troubleshooting time
- Same concept can be used combined with different PLCs and protocols by changing one part number

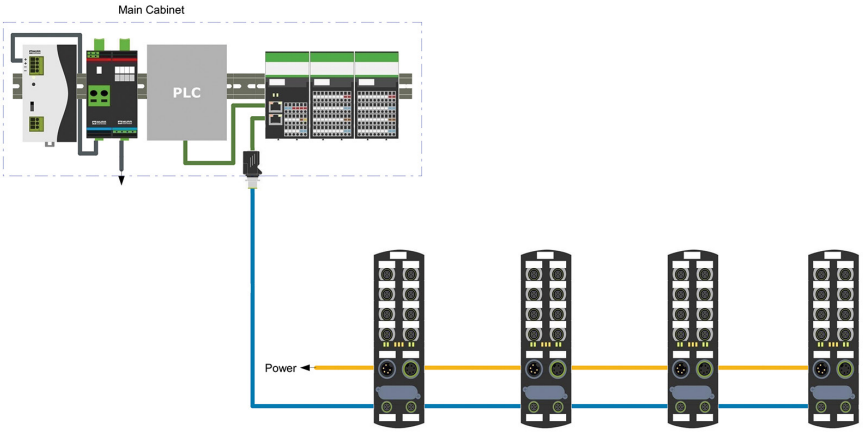
Used In

- Main Panel
- Areas with high I/O density
- Junction boxes
- Control boxes

Parts In the Application

- Cube20 - pg 10
- Exact12 - pg 4

IN-CABINET IO WITH IP67 STANDALONE DECENTRALIZED



In cabinet I/O combined with IP67 stand-alone modules is the next step towards wiring optimization for installations that have more I/O in the field rather than in cabinet I/O (i.e. lights, push buttons, etc.). Each IP67 block can connect up to 16 digital signals and replaces the multiconductor cables with two – power and communication.

Highlights

- High Density IO modules help reduces space required inside and outside enclosures
- Detailed Diagnostics via LED's and built-in webserver allows user to identify fault without having to open any enclosures
- Built-in Ethernet Switch eliminates the need for additional ethernet switches inside and outside the control panels.
- Reduces wiring mistakes by reducing multiconductor cables to two smaller cables.
- Same concept can be used combined with different PLCs and protocols by changing one part number

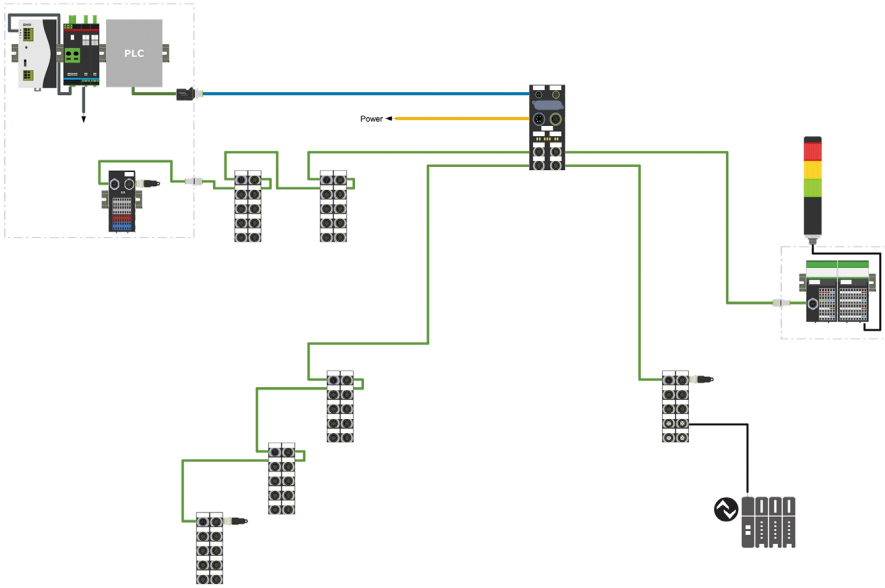
Used In

- Main Panel
- Conveyor Systems

Parts In the Application

- Cube20 - pg 10
- Impact67 - pg 26

IP67 DECENTRALIZED MODULAR SYSTEM



IP67 modular solution is the ultimate wiring utilization by removing most of the PLC I/O cards from in the cabinet and mounting IP67 rated modules as close to your I/O as possible resulting in shorter sensor cable lengths. With this IP67 decentralized solution you're able to connect many different I/O types such as digital, analog, IO-Link and more under one IP address.

Highlights

- Can connect over 1,000 signals under one IP address, great for monitoring I/O in your PLC and for controllers that have a limited number of IP addresses it can use
- This system can daisy-chain modules therefore it increases the distance and can connect more modules in areas with higher I/O densities.
- Instead of monitoring multiple IO- Link devices under multiple IP addresses, you can connect up to 128 IO-Link devices under one IP.
- With IP20 modules, you only need to route one cable into stand-alone junction box(s). This is what we call our "One Cable Technology".

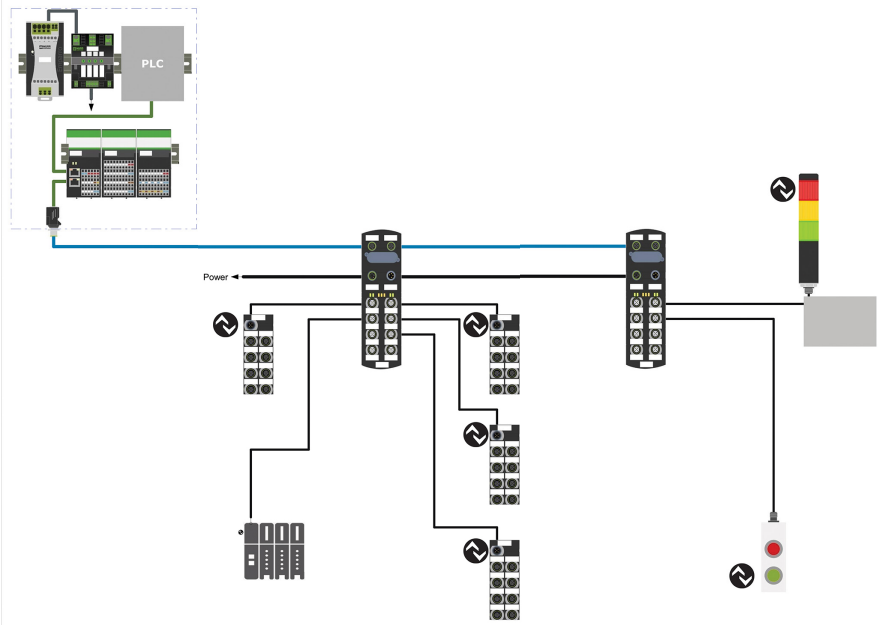
Used In

- Machine Stations
- Packaging Equipment
- Robotic Cells

Parts In the Application

- Cube20 - pg 10
- Cube67 - pg 26

IN-CABINET WITH IP67 STAND ALONE + IO-LINK DEVICES



In-cabinet IO combined with IP67 IO-Link master blocks to connect multiple IO-Link devices with standard sensor cables. With IO-Link devices such as hubs it gives the typical stand-alone module the ability to go from connecting 16 I/O to up to 136 I/O digital signals. With an increasing number of different IO-Link devices coming out in the market, this also means there's a need for more IO-Link master modules.

Highlights

- Can connect Class A or B IO-Link devices on any port on an IO-Link master module, this takes away the limitation on the number of Class A or B IO-Link devices that can be connected on an IO-Link master.
- IIoT protocols available for data transference to the cloud database or for users that wish to program with an IPC.
- The standard sensor cables used to for regular I/O can also be used to connect IO-Link devices.
- Available in different protocols and can be integrated with many different PLC manufacturers

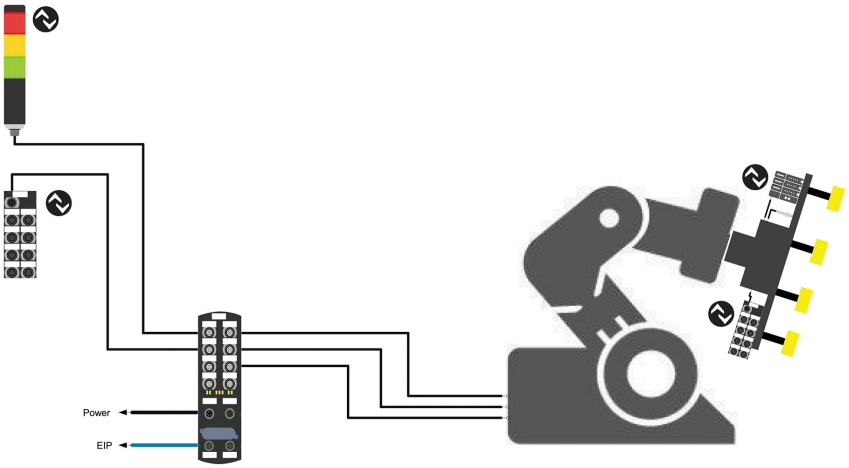
Used In

- HMI Stations (IP20 Solution)
- Conveyors
- Turntables with Stations

Parts In the Application

- Cube20 - pg 10
- Impact67 Pro - pg 32
- Io-Link Hubs - pg 36

IP67 STAND ALONE + IO-LINK DEVICES ON END OF ARM TOOLING



IO-Link master module can connect to different IO-Link devices that's available in the market. IO-Link devices only require an unshielded sensor cable connection, therefore it's easy to route through a robot arm without the concern of communication issues. On the end of arm tooling, all IO-Link devices have a standard M12 4 or 5-pole connection instead of having the different connection types in the past like a D-Sub connection on a valve bank for example.

Highlights

- Simple wiring solution with unshielded sensor cables routed up the robot arm.
- IIoT capability for users wanting to access data from a cloud database.
- Can assign names to IO-Link devices mounted on difference EOAT toolings that help the user identify which tooling the robot is currently connected to.

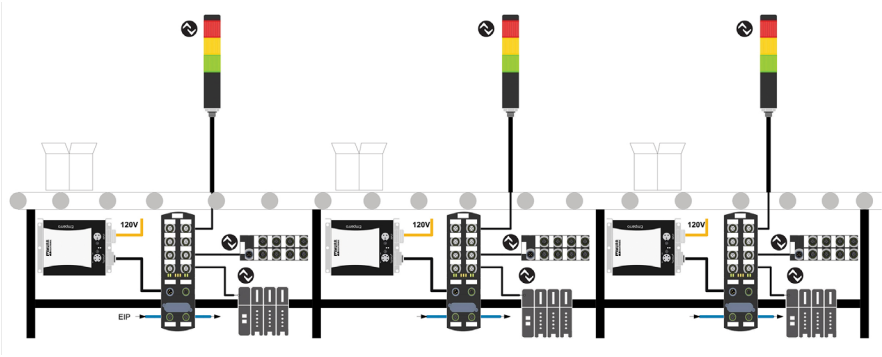
Used In

- Robot Applications
- Robotos with Multiple Toolings

Parts In the Application

- Impact67 Pro - pg 32
- Io-Link Hubs - pg 36

IP67 STAND ALONE + IO-LINK DEVICES ON A CONVEYOR



IP67 IO-Link masters installed on a conveyor system connected to various IO-Link devices. With the long distances, IP67 power supplies can be installed when considering voltage drops with multiple devices. In line with Industry 4.0, IO-Link devices are helping simple I/O such as sensors become smarter and able to provide more information such as diagnostics.

Highlights

- Stand-alone modules support ring topology so if a network cable was damaged, it won't affect the telegram exchange between the module(s) and the controller.
- IP67 power supplies are great for applications with long distances to accommodate voltage drops for I/O modules and/or power devices that require power isolation.
- With programmable IO-Link stacklights, the user can go from a 8-pole connection down to 3-pole.
- For areas that have a cluster of I/O signals, an IO-Link hub can be installed nearby resulting in shorter sensor cable lengths.

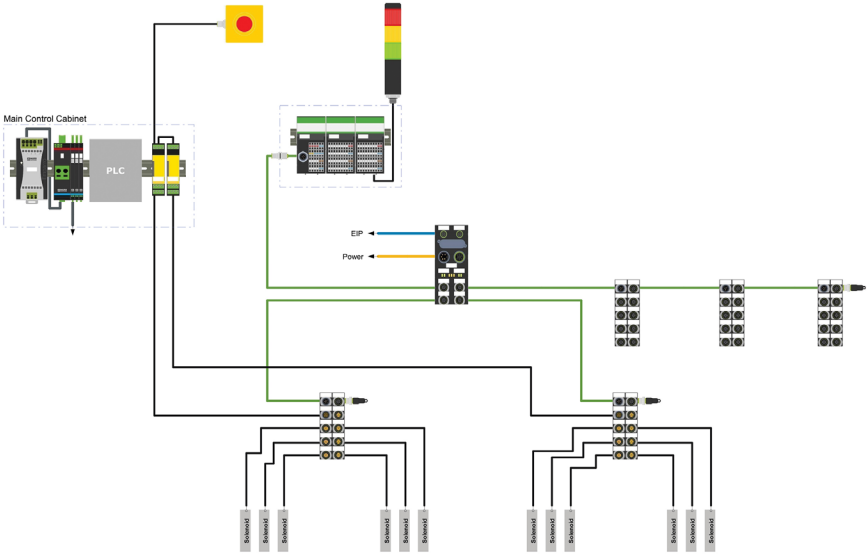
Used In

- Conveyors
- Conveyors with Pick and Place Robots

Parts In the Application

- Impact67 Pro - pg 32
- Io-Link Hubs - pg 36

IN & OUT OF CABINET WITH PASSIVE SAFETY



IP67 decentralized system in combination with in-cabinet I/O blocks and connecting safety devices. This can be a low-cost solution for connecting safety devices out in the field and routed back to a safety relay up to Performance Level d.

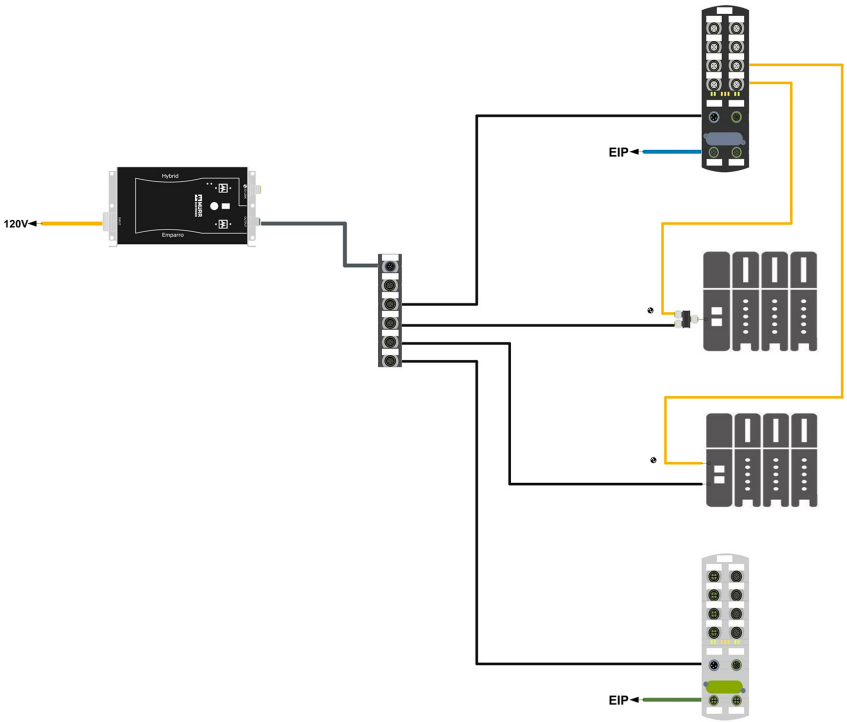
Highlights

- Low-cost solution for safety devices such as E-stops
- Can connect multiple safety devices in the field while routing one cable back to a safety monitoring device such as a safety relay.
- Can implement safety devices plus regular I/O devices under one IP address

Parts In the Application

- Cube20 - pg 10
- Cube67 - pg 26

IP67 POWER DISTRIBUTION



Taking circuit protection out of the cabinet and mounting it as close to the I/O giving it the same level of protection and potentially decreasing the size of the main cabinet and stand-alone junction boxes. Each channel is independent from each other so if a channel trips, the other ones will continue to operate as normal.

Highlights

- NEC Class 2 protection which means it's within UL standards.
- The power connection is galvanically isolated so if connected to a safety circuit the user will be able to reach up to Performance Level d.
- Able to group and monitor IP67 devices, if a short-circuit occurs the diagnostic will only reach the affected channel meanwhile the other channels will remain in operational mode.

Used In

- Conveyors
- Conveyors with Pick and Place Robots

Parts In the Application

- Impact67 Pro/MVK Pro - pg 32

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stay connected

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