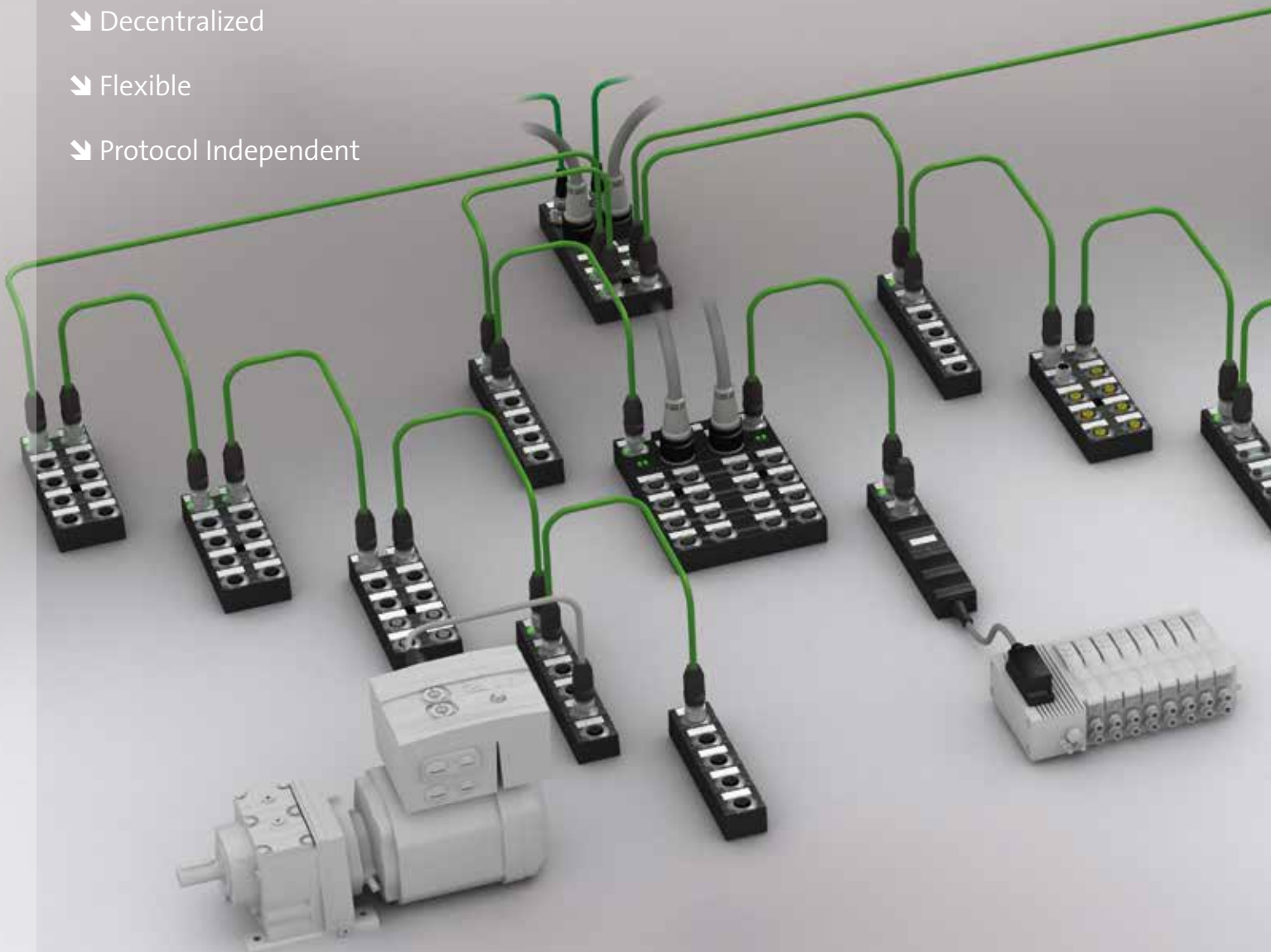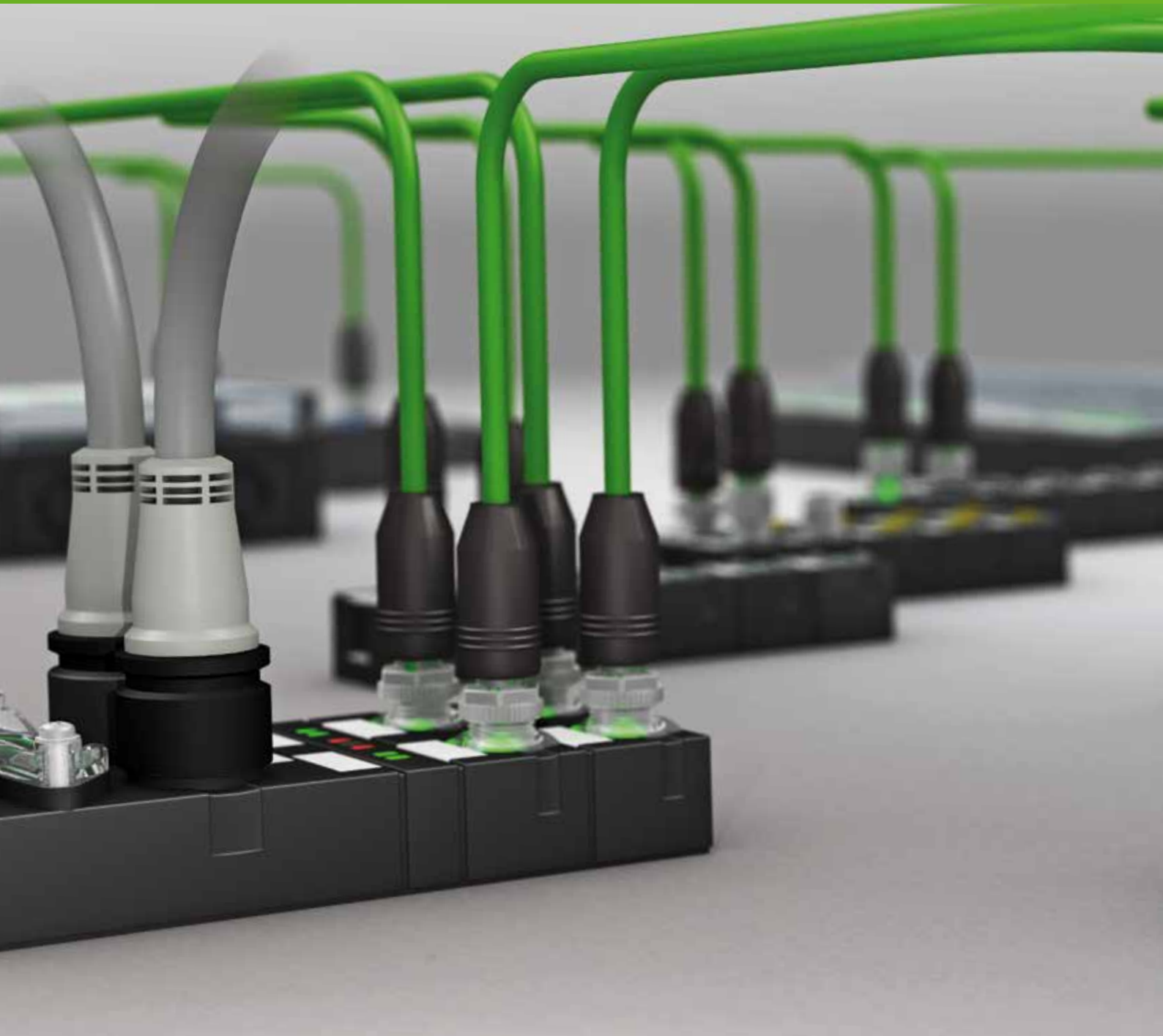**MURR ELEKTRONIK**

stay connected

Cube
The Compact Modular IO System

⭢ Decentralized

⭢ Flexible

⭢ Protocol Independent

IO-Link by Murrelektronik
Integration of smart IO-Link technology

Cube67 Hygienic Design
IP69K Rated: Suitable for all food zones

Cube67 Diagnostic Gateway
Diagnostics made easy

Cube

The compact modular IO system

Cube is a modular fieldbus system designed for decentralized installation concepts. Its flexibility makes it easy to develop the right solution for any application.

Cube has great functionality, plug-in connections, a robust and compact design, encapsulated modules, multi-functional digital channels and IP ratings from IP20 to IP69k. The modules are installed right next to the sensors and actuators. A system cable connects modules to the bus node and transfers both data and power. Extensive diagnostics make it easy to solve problems if they occur. The number of terminals in the control cabinet is reduced through the distributed approach, freeing up space.

Cube solutions offer a valuable cost-benefit ratio across the entire life cycle of a machine through: the simplified design, fast assembly of the machine, error-free commissioning and maximized system uptime for efficient operation.

NEW

M8 installation concept
Maximum channel density
– minimum space requirements
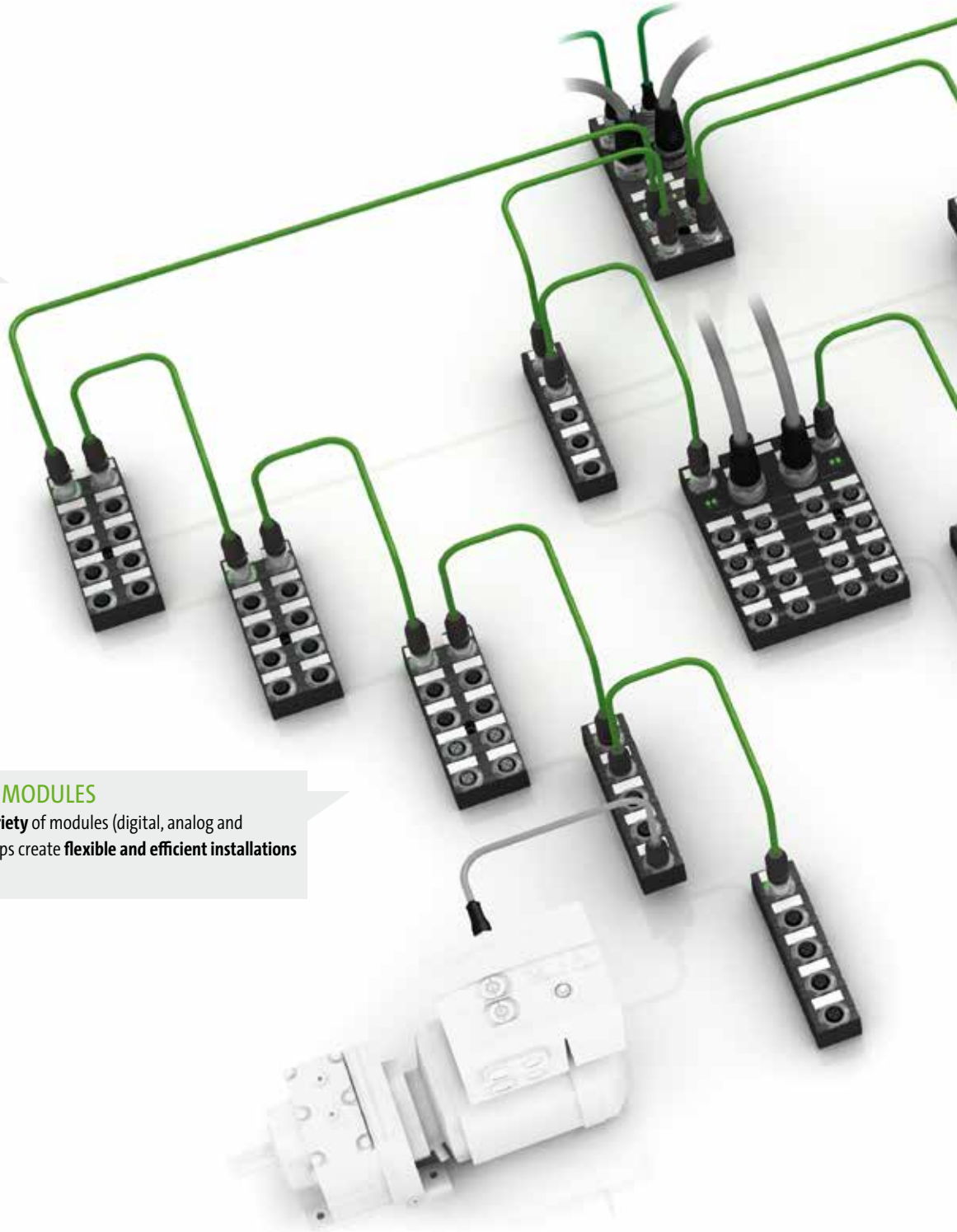
Decentralization at its best

An overview of the Cube system

SYSTEM CABLE

A system cable connects the modules to the bus node. **This transfers both data and power – reducing your installation effort.**

CUBE I/O MODULES

The **wide variety** of modules (digital, analog and function) helps create **flexible and efficient installations in the field.**

BUS NODE

The bus node is the Cube system's interface to the PLC. It **supplies the system and all connected sensors and actuators with power** while **monitoring currents** using a smart load circuit control (Mico).

CUBE20

Cube20 integrates IO signals from sub-distribution boards and terminal boxes (IP20) **into the Cube installation in an economical, distributed manner.**

Highlights of the Cube system

- ■ **Customer-oriented installation concepts**, customized solutions for any given application

- ■ **Great cost-benefit ratio:** lowers planning and installation effort

- ■ **Flexibility** Multi-functional slots and numerous function modules (IO-Link, RS485/MOVIMOT®...)

- ■ System-independent **"Replace the bus node not the system".** Bus nodes are available for all common protocols.

- ■ **Maximized transparency:** precise and detailed diagnostic options

One system from beginning to end

A Cube system combines control cabinet installations (IP20)
with field installations (IP67) in a simple manner.

CHANGE THE PROTOCOL BUT NOT THE SYSTEM

The installation concept remains the same irrespective of the PLC and protocol. **Simply swap the bus node to the chosen protocol.** Murrelektronik offers bus nodes **for all common field bus systems.**

PROFI NET   PROFI BUS   EtherNet/IP   EtherCAT

Cube67

EXPANSION AND SEGMENTS

- **Star or line topology**
- Each bus node can have **two segments – each segment can have two branches**
- Up to **32 modules per bus node**
- Up to **60 meters of system expansion**
- Modules can be placed next **to the process**

CUBE67/20 COUPLER

A Cube20 station can **be embedded into a Cube67 installation** using a system cable. This makes **installation easier.** All signals are routed through a single system.
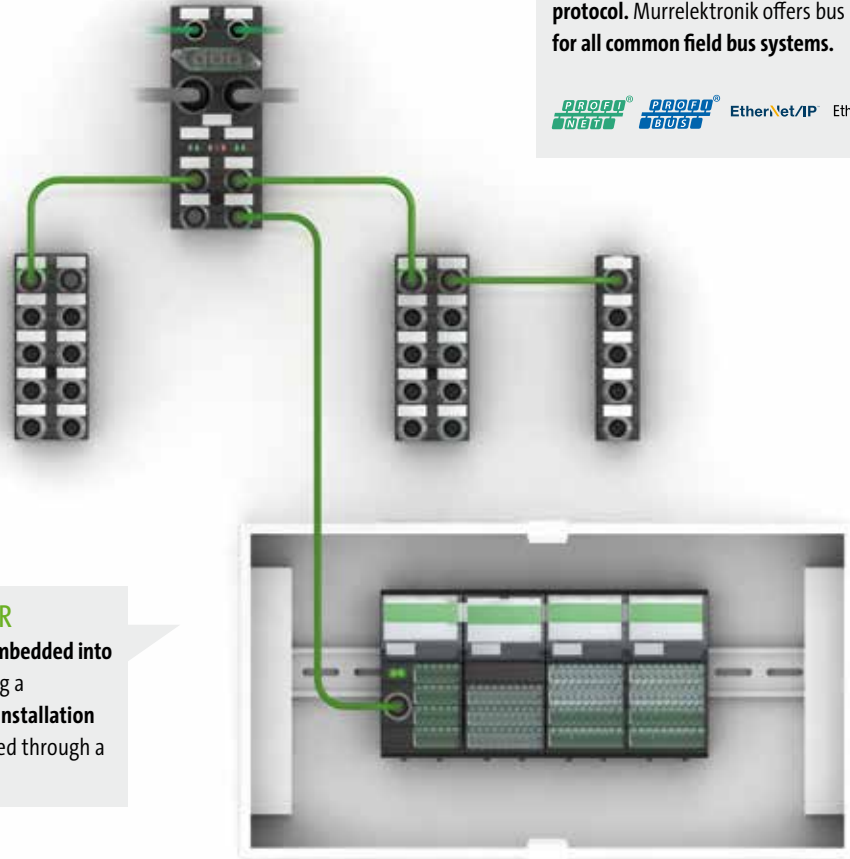
Cube67 is a distributed and expandable modular fieldbus I/O system for IP67 applications. It enables customer-oriented installation concepts and is fully adaptable to the given application by being installed in immediate installed in immediate proximity to the process. A system line connects the modules to the bus node, transferring both data and power.

- Arrange modules to suit the application along the system cable
- Simple module addressing reduces commissioning time
- Extensive system expansion (up to 60 meters) without separate protection systems through smart current monitoring (Mico) in the bus node
- IP67 rated, fully potted, compact modules for installation next to the process. No need for junction boxes
- Hygienically designed, IP69K rated modules for the food sector
- Plug-in connections prevent connection errors while enabling faster installation and separation for transport

CUBE IN THE CONTROL CABINET

Cube20 is **protocol-independent. Bus nodes are available for all common field bus protocols.** Up to 488 digital I/O signals can be processed by a single station.

Cube20
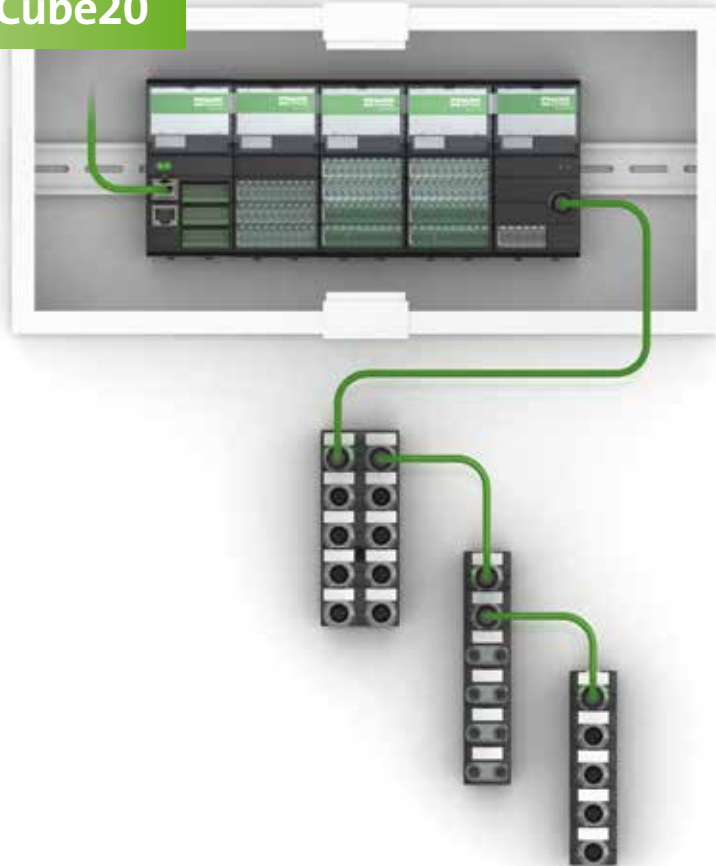
CUBE20/67 COUPLER

Cube67 modules can be connected via an **interface component** (branch length up to 10 m, up to 15 modules per bus node). This is **easy to plan, easy to install and allows a multitude of variations.**

YOUR ADVANTAGES

Significantly reduced space requirements in the control cabinet, fast and **easy installation**, increased productivity through **"Finding, not searching faults"**

Cube20 is an expandable modular fieldbus I/O system for control cabinets. It can be operated as a stand-alone unit or with a Cube67. Cube20 is specifically designed for the requirements of modern control cabinet wiring. High costs due to handling of many individual components can be reduced to a minimum with Cube20.

- Compact design, low overall height
- High channel density
- 32 channels per I/O module. Up to 488 I/Os on just 90 cm
- Up to 15 modules with a single node address
- Detailed, single channel diagnostics and transparent terminals with LEDs make it easy to find errors
- Maintenance-free spring clamp terminals

Functionality with real benefits
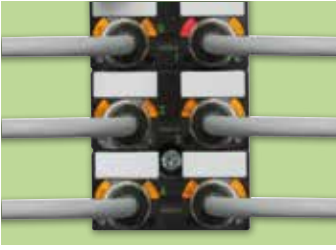
Diagnostics

Detailed diagnostic messages to the controller and LED status indicators at the ports make it easy to find errors. **This reduces both commissioning time and downtime.**

Multi-functional I/Os

Connections can – depending on the requirements at any given location in the distributed installation – be configured as inputs, diagnostic inputs or outputs. This allows you to connect a wide variety of components to a module. **You gain flexibility while using fewer parts.**
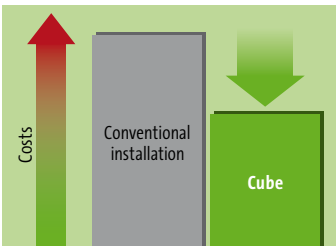
Saves time and money

Reduced design times and faster hardware and software installation increases production capacities while lowering lead times. **This is how Cube secures a competitive edge.**

Safety

Cube enables passive safety technology solutions. The M12 outputs and connections for the valve manifolds can be used in installations up to category 3 and performance level d (according DIN EN ISO 13849). **This makes it easy to incorporate safety technology without increasing wiring efforts.**

System Cable

Cube67 uses a single system cable for both power supply and data transmission. Premolded cables minimize errors. **The installation requires half the space and can be completed in half the time.**
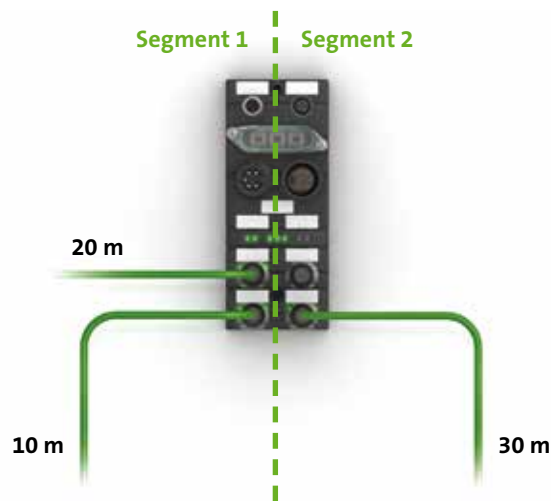
IO-Link by Murrelektronik

The integration of smart IO-Link devices in Cube67+ opens up additional possibilities and adds functionality to M12 ports. **This enables flexible and automated configuration of devices.**

Expansion of the Cube system

Cube67

Segment 1   Segment 2

20 m

10 m   30 m

- A Cube67 bus node divides the Cube system in two segments
- There are two branches available per segment
- Up to 30 meters of system cable can be used per segment
- These 30 meters can be shared between the two branches as needed
- Branches can be terminated with your choice of a terminating resistor or compact module
- Up to 16 modules can be added to each segment
- Cube20 modules (with three expansion modules each) can be integrated into the installation via a Cube67/20 interface module

Cube20

10 m
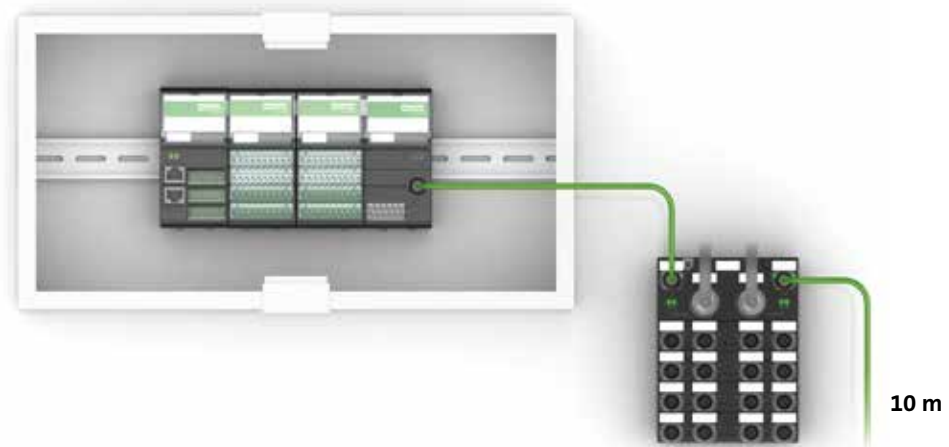
- Each Cube20 bus node supports up to 15 additional modules
- Cube67 modules can be integrated via a Cube20/Cube67 interface module
- The entire system – from the IP20/IP67 Interface to the last module – is 10 meters long

Application solutions

Cube systems offer advantages to a wide range of industrial sectors

Assembly and handling technology

A Cube system, with its flexibility and compact dimensions, is suited for applications with limited installation space like those in assembly or handling technology. The modules are placed next to the process. The multi-functional ports and the large number of channels (up to 32 IOs per module) make them optimal to fulfill the requirements of this industry. The system cable reduces routing paths. Not only does Cube connect various digital, analog and IO-Link sensors and actuators, it also integrates valve manifolds into the installation in an economical and effective way.

"Machine Option Management" (MOM) minimizes restart times after tool changes or conversion of machines and installations.

Machine tools

The robust, fully potted Cube modules and their system components can withstand the effects of oils and lubricants. They ensure the installation has a long service life. Even high curent valves (up to 2 A) can be operated without any problems. Extensive diagnostics options ensure maximized productivity.

Logistics

Terminal boxes are not needed due to flexible module arrangement and multi-functional configurable ports of the I/O modules. This reduces the installation effort. The integrated IO check makes it possible to commission partial areas of the installation. As the system bus line can be plugged, machine parts can be separated for transport and quickly be reconnected and commissioned after setup. Function modules with an RS485 and IO-Link interface facilitate the use of RFID sensors and other complex sensors. This enables networked automation in logistics applications.

Automotive industry

In automotive production, value creation is tightly linked to minimizing downtimes of machines and installations. The Cube system's M12 ports along with "Machine Option Management" (MOM) and the automated addressing function enables short setup times. The Cube67 Diagnostic Gateway offers extensive diagnostic data online via any web browser. This data can also be transferred to many cloud analytics applications via OPC-UA.

Robotics

Thanks to "Machine Option Management" (MOM), tool changes can be done very quickly. This minimizes downtime and increases production. The system cable is torsion-resistant and needs very little space in the cable assembly. The compact design of the Cube modules together with their high vibration and shock resistance makes them a perfect choice for robotics applications.

Food & Beverage

The robust IP69K Cube modules with hygienic design enable active installation solutions suitable for food zones. Costly junction boxes and complex installations are not required. A single Cube system cable reduces costly parallel routing of individual cables on stainless steel screens to a minimum.

Packaging

The Cube system's "Change the protocol but not th system" makes installations and machines ready for global use. The Cube system processes signals with function modules (counter, logic) directly in the field, enabling shorter reaction times. Drives (MOVIMOT®) are controlled by the system in an economical and simple way.

Wood processing

Wood processing is all about flexible and efficient solutions. The Cube system with its variety of modules enables solutions for even the most challenging applications. Planning and installation efforts can be significantly reduced this way.

Fit for the future

On the way to Industry 4.0

Digitalization means global networking of machines and factories, and transparency from the sensor level all the way to the cloud. All information from product development to plant operation is visualized through a data model. The Cube system is fit for Industry 4.0 and offers forward looking features.

High first call resolution rate through remote maintenance

With Cube, machine owners know what is happening on their machine's IO level anytime and anywhere. This alows them to be proactive when errors or bottlenecks become apparent (predictive maintenance). Wide ranging process and diagnostic data are either passed to the PLC or field bus independent, to the Cube 67 Diagnostic Gateway. This enables a high first call resolution rate via remote access (remote control).

Web interface (EtherNet/IP)

If the system uses an EtherNet/IP bus node, it can be configured in a web browser. The "IO-Check" function reads inputs and assigns outputs by clicking on them – without an active controller. This helps minimize commissioning times. "Byte mapping" ensures that the byte area is not changed or shifted when additional modules are integrated into an existing installation. This avoids complex maintenance work in the configuration.

Machine Option Management

The MOM function allows optional machine extensions at the push of a button. Product and format changes can be done flexibly and quickly. This supports modularization of production all the way up to production of small batch sizes which is typical for Industry 4.0.

OPC UA

Predictive maintenance through OPC UA

Through the standardized OPC UA interface, data is forwarded to superordinate cloud or ERP systems, such as SAP systems, independently of the platform. This data is seamlessly documented and opens up possibilities for evaluation processes that deliver the transparency required in Industry 4.0. This enables optimization of production and minimization of downtimes, which are important factors in gaining a competitive edge. For example, a technician will only be called to such an installation if it has autonomously requested maintenance. Integration into ERP systems can go so far that acquisition and delivery of spare parts is exactly timed with the maintenance work and costly follow-up maintenance can be avoided altogether.
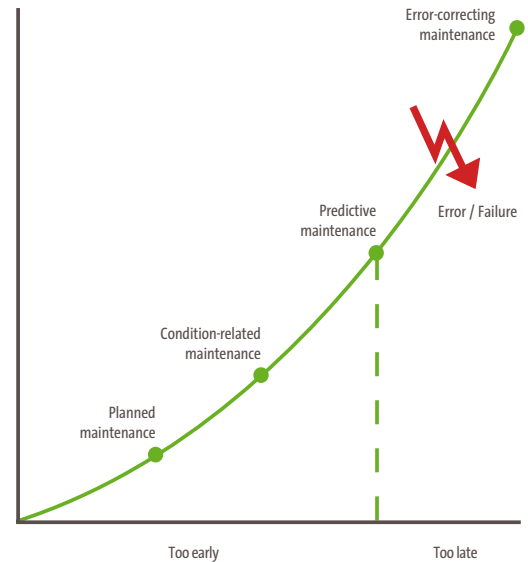
Effective maintenance strategy for an improved system structure: **From reactive to predictive maintenance**
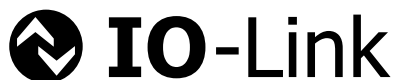
IO-Link

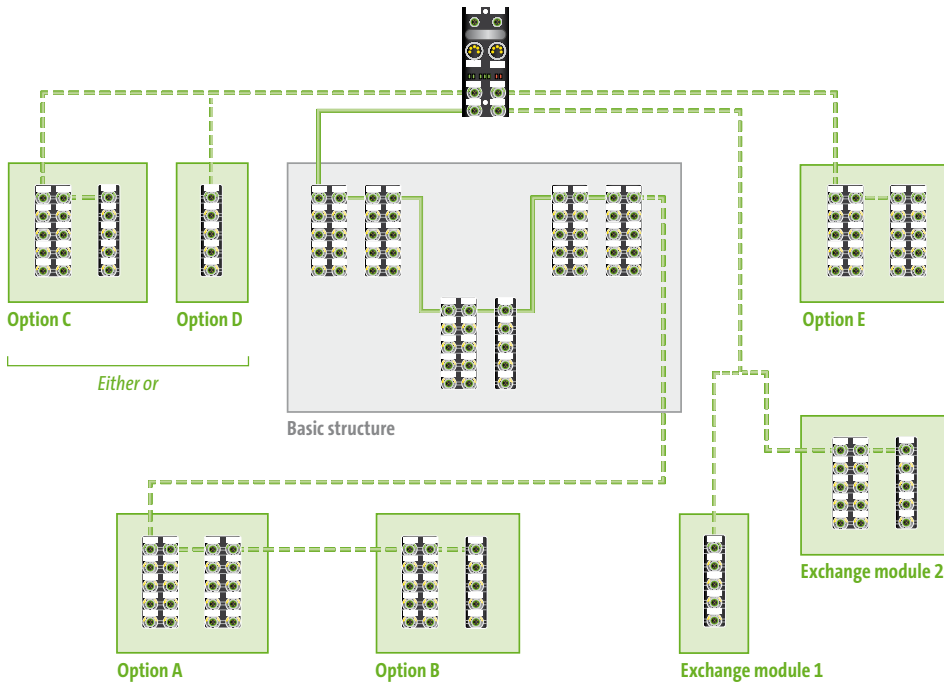BY MURRELEKTRONIK

Integration via IO-Link interface

Cube67 with its IO-Link modules is perfectly suited for integration of smart IO-Link sensors. Up to 52 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.

Energy management

In the Cube system, a "Bus Control" command suffices to deactivate actuators across parts of the machinery, which are currently not required. This reduces energy cost and is good for the environment.

Machine Options Management

System solutions – matched to your applications

Option C

Option D

Either or

Basic structure

Option E

Exchange module 2

Option A

Option B

Exchange module 1

MOM supports switching different Cube modules on or off via the controller during operation. This is the basis for modular machine configuration, easy tool changes, standard machines with different degrees of IO expansion, optional machine attachment parts and sequential commissioning.

MOM reduces project planning and documentation efforts while also providing exceptional system flexibility.

Benefit from our know-how

Murrelektronik will provide you with extensive support for the integration of the Cube system that is right for your application. You can benefit from the wealth of practical experience that our system and application consultants have. We will accompany you through the initial development phase to the completion stage of your system design as well as commissioning. We will be at your side to help you implement the most effective, and economical, solution for your automation challenges.

For more information, contact your Murrelektronik representative.

Our **Customer Service Center** is always at your side – even in the event a fault occurs during operation.

NEW

Cube67 Hygienic Design

Suitable for food zones

The food sector has particularly demanding requirements for the durability and cleanability of the components that are used in a system. The Cube67 Hygienic Design modules have been designed to fulfill all of them.

They feature a closed stainless steel housing as well as V4A (1.4404) threaded sleeves. They are designed to facilitate cleaning. With an IP69K rating, a Cube system can be used in any food zone.

This comes with great potential for cost reductions:

- By using Cube67 Hygienic Design modules, the particularly costly stainless steel terminal boxes used in the food sector can be phased out completely.

- Parallel wiring of individual cables over stainless steel screens in food & beverage applications is extremely complicated. The Cube system enables a direct process connection with a single system connection.

- Valve manifolds can be implemented in a cost-efficient way via the IO-Link master module.

8x — Sensor-/actuator cable

1x — Cube67 System line
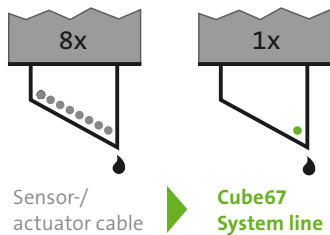
IO-Link
BY MURRELEKTRONIK
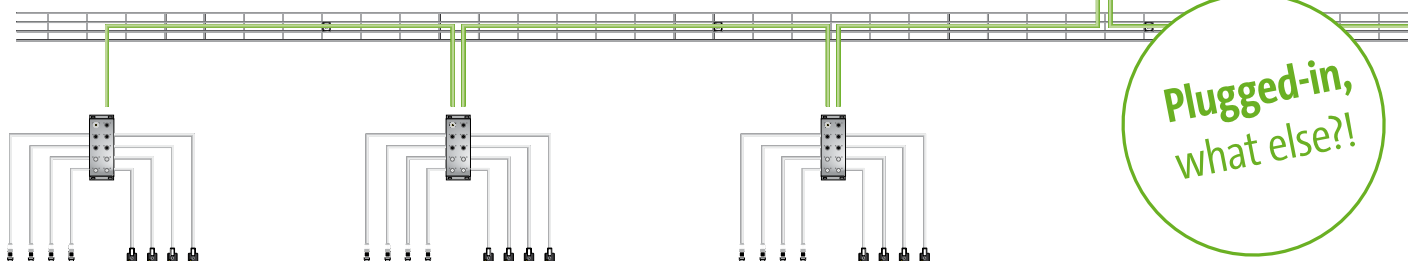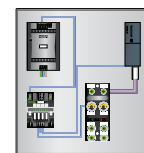

Plugged-in, what else?!

NEW

Cube67 Diagnostic Gateway

Diagnostics made easy

Murrelektronik's Cube fieldbus system offers extensive diagnostic options.

Our **Diagnostic Gateway** allows Plug & Play access to data via an Ethernet interface. This solution is easy to implement and provides clear instructions in case of failure while allowing maximum machine availability.
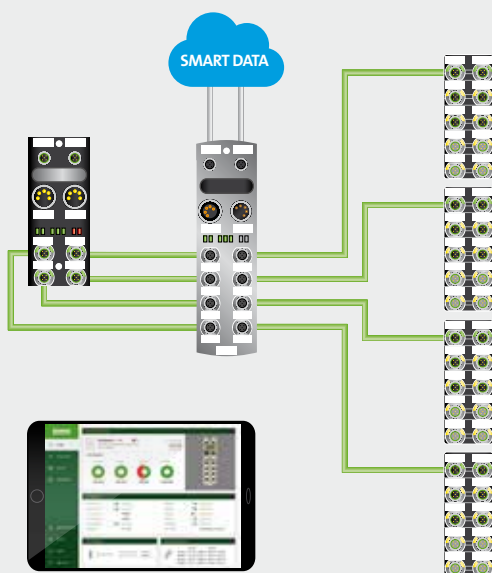
- **Commissioning engineers** use the Diagnostic Gateway to examine the topology of the Cube system and detect installation faults at an early stage.

- Machine **Service personnel** are able to quickly identify errors by temporarily integrating the Diagnostic Gate way. This system is a good solution for machine acceptance tests. Permanent integration is able to guide repairmen in the field via remote access.

- The **machine or system operator** who permanently incorporates the Diagnostic Gateway is able to react to potential problems early. In a best-case scenario, instructions for troubleshooting have already been implemented, allowing the technician to bring the right part with him when he comes to make repairs.

The Cube67 Diagnostic Gateway is the tool that speaks your language!

- Diagnostics and topology detection without additional programming
- Easy embedding of the gateway between the Cube bus node and up to four branches of the Cube installation
- Functions with all Cube bus nodes (backward compatible to older modules)
- Browser- and platform-independent representation of the Cube topology, process data and diagnostic information
- Diagnostic memory (logbook) in case of "volatile errors"
- Plain text module designations and error messages
- Fieldbus and control system independent
- Data provision via a standard OPC UA interface as a basis for transition to Industry 4.0
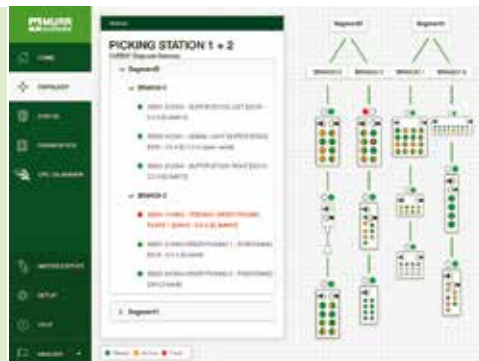
Easy system overview

The user is given an overview of the Cube system and the Diagnostic Gateway at a glance: connection data, system voltages and currents.

Everything at a glance

Clear representation of the system topology, both in tabular and graphic form, showing all process and diagnostic data in a live state.

From Diagnostics to a Solution!

Detailed diagnostic and system messages, including a precise, plain text explanation, description of the effects and information on how to resolve the error

Applications

Communication modules for distributed drives

Drives using the MOVIMOT® protocol, with a distributed installation across an installation or machine, are implemented in the Cube system via Cube module 56761 (Cube67+ DIO4 RS232/485 E 4xM12). They no longer have to be wired to the control individually. This saves time-consuming and costly parallel wiring.

Here, several drives in an installation communicate with the control through a single IP address or bus node name. This uses less addressing resources from the control so that a smaller control with a smaller number of IP addresses can be used in many cases. The flexible field bus connection of the Cube system ("Bus replacement without system replacement") allows the use of more cost-effective standard drives on the field level without a special field bus connection. This reduces the number of variants and hence makes standardization and planning easier.

The communication module also supports other serial devices such as RFID sensors, bar code scanners or printers.

The module features two additional M12 slots with two multi-functional configurable inputs and outputs each. This facilitates easy integration of additional actuators and sensors into the installation next to the process.

Valve manifold connection

Valve terminals of various manifolds can be implemented into the distributed IO installation using a Cube module with a matching multipole connector. This reduces complex, time-consuming, costly and error-prone parallel wiring, and the entire interface level for valve terminal control in the control cabinet is no longer required. The Cube module for valve manifold activation is an expansion module; hence it supports connecting additional IO modules to it to expand the topology.

Passively safe Cube modules for valve manifold control are available for applications that require safe deactivation of valves in order to protect man and machine.

In combination with safety relays, e.g. MIRO SAFE by Murrelektronik, up to four safe actuator circuits can be implemented that way. Blocks of valves can be deactivated safely. Murrelektronik offers Cube modules for valve terminals from Festo, Norgren, Aventix, SMC, MacValve, Numatics, Vesta, Metalwork, Parker and others.

Connection of indicator lights

Cube67 Cable modules are available for connecting indicator lights like Murrelektronik's Modlight. They feature a cable with an M12 connection that can be plugged in directly at the light stack. The lights are simply incorporated in the distributed installation via Plug & Play without any additional cabling. The interface level is not required, saving space in the control cabinet.

Of course the Cube67 Cable modules are not only good to connect indicator lights – they also support other sensors and actuators with up to 16 multi-functional configurable inputs or outputs. Cube67 Cable modules are available with different connection cable lengths and configurations, including open ended varieties.

Signal pre-processing in the field

The Cube counter module counts a state and compares the obtained value with a pre-set parameter. If this parameter is reached, the counter module switches a digital output. Counting can be done upwards or downwards as required. After reaching the comparison value, counter and output can be reset manually. The counter depth is 32 bits, or, simply put: The module can count to 2,147,483,647, with a speed of up to 300 kHz.

M8 installation concept with 4-pole ports

Space is limited in machines and installations. There are some particularly striking examples in handling, assembly, robot and linear technology, in addition to logistics and packaging machinery – every millimeter is valuable. Installation solutions in these areas are often implemented with compact M8 connectors.

Therefore, Murrelektronik also offers Cube modules for M8. Their compact design supports new and innovative installation concepts. The modules can be located even closer to the process while sensors and actuators can be connected with even shorter cables. That reduces cabling effort and ensures a good overview.

One installation advantage is that Murrelektronik also offers M8 Cube modules with 4-pole ports. While there is only one pin available for digital data transmission in 3-pole ports, the 4-pole ports now enable processing of two signals. Thanks to this, devices such as pneumatic cylinder limit switches, two-point fiber sensors, light barriers with teach functionality, two-way valves or pressure switches as well as grippers can be connected directly with a single pre-fabricated connection cable.

Power module

When there are many high-power loads in close proximity, like a hydraulics application, the current requirement increases.Such areas can be integrated into the Cube system as well. For this purpose, additional power is supplied to this section of the Cube system: The Cube Power module can be supplied with power via two 7/8" connectors. It features outputs with a current of up to 2 A and can supply high-power loads. The data is transmitted via the Cube system cable as usual.
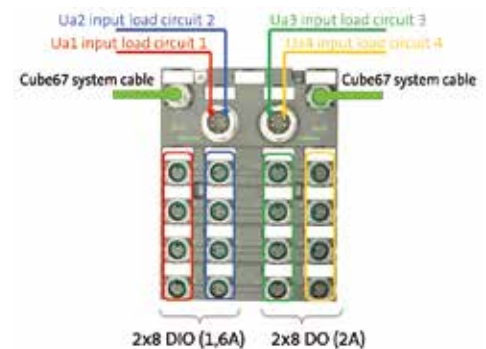
The integration of high-power sections simplifies machine installation as there is no parallel wiring and no terminal boxes required.

Another option to supply the standard modules with more power is an additional actuator power supply via a T-coupler. A separate additional actuator power supply with 4 A can be added anywhere in the system. It can be branched off from either an Extra Power distributor, from the bus node, or from the power supply in the control cabinet.

Cube20

Bus Node	Protocol	I/O	Art. No.
	PROFIBUS	DI8	56001
	Ethernet/IP		56005
	ProfiNet		56006

Digital Inputs	I/O	Art. No.
	DI32	56112

Analog Inputs	I/O		Art. No.
	AI4	U/I	56200
	AI4	RTD	56230
	AI4	TH	56240

Digital Inputs/ Outputs	I/O	Art. No.
	DI16 DO16	56168

Analog Outputs	I/O		Art. No.
	AO4	U/I	56220

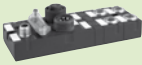| Digital Outputs	I/O	Art. No.
	DO16 2A	56117
	DO32	56118

System Connection

Cube67/20 Interface Module DIO8

Art. No.
56450
564501*

*Power via Cube67 system cable

Cube67

Cube67+ Bus Node	Protocol	Art. No.
	PROFIBUS	56521
	ProfiNet	56526
	EtherCat	56527
	EtherCat, alias name	5652701
	Ethernet/IP	56535
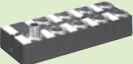
Cube67 Diagnostic Gateway	Description	Art. No.
	Webserver and OPC-UA via Ethernet	56968
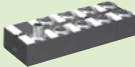
System Connection

Cube20/67 Interface Module

Art. No.
56140

Digital Inputs	I/O	Description	Art. No.
	DI16	8 x M12 C	56602
	DI8	4 x M12 C	56612
	DI8	8 x M8 C	56622
	DI16	8 x M12 E	56603
	DI16 NPN	8 x M12 E	56606
	DI8	4 x M12 E	56613
	DI8 NPN	4 x M12 E	56616
	DI8	8 x M8 E	56623
	DI8 NPN	8 x M8 E	56626

Configurable Digital Inputs/ Outputs	I/O	Description	Art. No.
	DIO16	8 x M12 C	56600
	DIO8	4 x M12 C	56610
	DIO8	8 x M8 C	56620
	DIO16	8 x M12 1.6A C	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 0.5A	56642
	DIO8	8 x M8 E	56621
	DIO16	8 x M8 E 4-pole	56625
	DIO8	4 x M8 C 4-pole	56627

AI = Analog Inputs
AO = Analog Outputs
DI = Digital Inputs
DO = Digital Outputs
DIO = Configurable ports
C = Compact Module
E = Expansion Module
(I) = Current Signal

Digital Inputs/ Outputs	I/O	Description	Art. No.
	DIO8 DI8	TB Box E	56681
	DIO8 DI8	TB Box E (extra terminals)	5668100
	DIO8 DI8	TB Rail E (IP20)	56691
	DIO8	M16 E	56663

Safe Outputs	I/O	Description	Art. No.
	DO6/DO6	6 x M12 K3 E	56605

Function Modules	I/O	Description	Art. No.
	2 counters	4 x M12 C	56750
	DIO12 IOL4	8 x M12 E Cube67+	56766
	DIO4 RS232/ 422/485/ MOVIMOT®	4 x M12 E Cube67+	56761

Configurable Digital Inputs/ Outputs	I/O	Description	Art. No.
	DIO16	8 x M12 E Hygienic Design	5660160
	DIO8	4 x M12 E Hygienic Design	5661160
	DIO12 IOL4	8 x M12 E Cube67+ Hygienic Design	5676660

Analog Inputs	I/O	Description	Art. No.
	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

Analog Outputs	I/O	Description	Art. No.
	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

Digital Inputs/ Outputs	I/O	Description	Art. No.
	DIO8	Cable M12	5666201
	DIO8	Cable 0.5m E	56661
	DIO16	Cable 0.5m E	56662
	DI16/DO16	Cable 0.5m E	56671

Digital Outputs	I/O	Description	Art. No.
	DO8	Cable 0.5m E	56655
	DO16	Cable 0.5m E	56651
	DO32	Cable 0.5m E	56656
	DO7	M12 Modlight	5665503

Safe Outputs	I/O	Description	Art. No.
	DO8 C 4 X Ua	Festo K3 C - CPV	5665003
	DO16 C 4 X Ua	Festo K3 C - CPV	56650

Digital Outputs / Expansion Modules (E) / Compact Modules (C) / Cable 0,5m	I/O	Description	Art. No.
	DO32 E	Aventics HF02/03-LG (Sub D-44)	5665617
	DO24 E	Aventics HF02/03/04-LG. Festo VTUG	5665606
	DO8 E	Festo VTUG (V20)	5665505
	DO8 E	Festo CPV (Sub D-9)	5665501
	DO16 E	Festo CPV (Sub D-25)	5665100
	DO12 E	Festo CPV (Sub D-15)	5665102
	DO16 E	Festo CPV-SC (Sub D-26)	5665103
	DO8 E	Festo MPA	5665502
	DO16 E	Festo MPA 32-S	5665118
	DO16 C 4 X Ua	Festo MPA	5665001
	DO24 E	Festo MPA	5665601
	DO32 E	Festo MPA-L (Sub D-44)	5665616
	DO24 E	Festo MPA-L (Sub D-25)	5665619
	DO16 E	Festo VTSA	5665105
	DO32 E	Festo VTSA	5665613
	DO16 E	MAC Valves Blockmodul	56653
	DO32 E	MAC Valves Blockmodul	56657
	DO16 E	MAC Valves (Sub D-25)	5665116
	DO32 E	MAC Valves (Sub D-44)	5665609
	DO16 E	Metal Work HDM	5665106
	DO16 E	Norgren V20, V22	5665110
	DO16 E	Norgren V20, V22C	5665115
	DO16 E	Norgren VMlO	5665111
	DO24 E	Norgren VMlO	5665600
	DO32 E	Norgren VMlO	5665603
	DO22 E	Numatics Generation 2000	5665618
	DO32 E	Pneumax (Sub D-37)	5665620
	DO16 C 4 x Ua	SMC SY (New, metric,) SY (45F), S0700, SV, VQC, SQ, VQ, SJ, SX	5665002
	DO16 E	SMC SY (New, metric), SY (45F), S0700, SV, VQC, SQ, VQ, SJ, SX	5665113
	DO16 E	SMC SV, VQC (M), SY (45F), (M27, 26-pol.)	5665114
	DO16 E	SMC SV, SX (45F), SY (45F),	5665120
	DO23 E	SMC SV, SY (45F), SX (45F)	5665604
	DO24 E	SMC SV, VQC (M), (M27, 26-pol.)	5665607
	DO24 E	SMC SY (New, metric), SY (45F), S0700, VQC, SQ, VQ, SJ	5665614

More variants on request

| | DO22 E | Vesta 4HF (Sub D-25) | 5665611 |
| | DO32 | Vesta 4HF (Sub D-37) | 5665610 |

(U) = Voltage Signal
TH = Thermocouple

RTD = Resistance/Temperature
IOL = IO-Link

M12 6-pole, Shielded, Cube System Cable

Male/Female 0°
Art. No.: 7000-46041-802xxxx

Male/Female 90°
Art. No.: 7000-46061-802xxxx

Male/Female 0°
Food & Bev., V4A, PVC, gray
Art. No.: 7014-46041-522xxxx

Male/Female 90°
Food & Bev., V4A, PVC, gray
Art. No.: 7014-46061-522xxxx

M12 4-pole, Shielded, D-coded ETHERNET Cable

Male/Male 0°,
green PUR
Art. No.: 7000-44511-796xxxx

Male/Male 90°,
green PUR
Art. No.: 7000-44561-796xxxx

Male 0°/RJ45
Art. No.: 7000-44711-796xxxx

RJ45/RJ45
Art. No.: 7000-74301-796xxxx

M12 6-pole, External Cube Actuator Supply

Female 0°
Art. No.: 7000-15001-414xxxx

Female 90°
Art. No.: 7000-15021-414xxxx

Female 0°, shielded, Cube67 Safety –
short-circuit protected
Art. No.: 7000-15101-138xxxx

Male/Female 0°
Art. No.: 7000-46001-414xxxx

Male/Female 90°
Art. No.: 7000-46021-414xxxx

7/8" 5-pole, Power Cable

Female 0°
Art. No.: 7000-78021-961xxxx

Female 90°
Art. No.: 7000-78051-961xxxx

Male/Female 0°
Art. No.: 7000-50021-961xxxx

Temperature Compensation Connectors, Self-connecting

M12 0°,
4-pole
Art. No.: 56945

M12 90°,
4-pole
Art. No.: 56946

System Interface Connector

M12 male 0°,
internal system connection
Art. No.: 56947

M12 female 0°, with mounting base,
internal system connection
Art. No.: 56948

M12 male 0°,
internal system connection
Art. No.: 56949

M12 Bus Termination Connectors

6-pole, A-coded, Cube67
Art. No.: 7000-15041-0000000

4-pole, B-coded, PROFIBUS
Art. No.: 7000-14041-0000000

Food & Beverage, PVC, V4A
Art. No.: 7014-15041-0000000

Food & Beverage, PP, V4A
Art. No.: 7024-15041-0000000

Torque Wrench

M12 Torque Wrench set SW 13
Art. No.: 7000-99102-0000000

M8 Torque Wrench set SW 9
Art. No.: 7000-99101-0000000

xxxx = Cable length in cm (e.g.: 0100 = 100 cm)

T-coupler, Additional Cube67 Actuator Power Supply

M12 CUBE67/M12 POWER 4 A
Art. No.: 7000-46101-0000000

T-Coupler (Slim Line)
Male 0° – female 0°/male
M12 – M12, 2-pin
For connection to MVK Safety
Art. No.: 7030-42612-0000000

Dummy Locks

Blind Cap M12
inside thread
Art. No.: 56951 – VE 4 pcs

Blind Cap M12
Art. No.: 56952 – SU 4 pcs
Art. No.: 58627 – SU 10 pcs

Blind Cap M8
Art. No.: 3858627 – SU 10 pcs

F&B Screw Plug M12 V4A,
Art. No.: 996086 – SU 4 pcs
F&B Screw Cap M12 V4A,
Art. No.: 996087 – SU 1 pcs

Cabinet Lead-through

M12/panel feed through,
6-pole, A-coded, male/female,
shielded
Art. No.: 7000-46111-0000000

RJ45/M12 Adapter, D-coded ETHERNET

Straight
Art. No.: 7000-44671-0000000
90°
Art. No.: 7000-44681-0000000

Connection Accessories

Bearing rail adapter for
bus notes
Art. No.: 56961

Bearing rail adapter for IO module
(50 mm)
Art. No.: 56962

Bearing rail adapter for IO module
(30 mm)
Art. No.: 56963

Cube67 Power Distributor

Active power distribution 4 x 4 A
1x 7/8" to 4x M12, 6-pole
Art. No.: 56955

Cube20 Potential Terminal Block (spring clamp terminals)

Mounts directly on Cube20 or DIN rail

4 x brown
Art. No.: 56077

Gray/gray/brown/blue
Art. No.: 56078

Gray/gray/yellow/blue
Art. No.: 56079

Yellow/blue/yellow/blue
Art. No.: 56080

Yellow/blue/yellow/blue
Art. No.: 56080

2 x blue/2 x brown
Art. No.: 56083

4 x gray
Art. No.: 56084

4 x blue
Art. No.: 56085

2 x brown/2 x blue
Art. No.: 56109

2 x blue/2 x yellow
Art. No.: 56110

Blue/yellow/brown/blue
Art. No.: 56111

Slim line 2x35 push-in terminals
Art. No.: 56082

Label Plates

Label plates, 20 x 8 in a set of 20 pcs
Color white
Art. No.: 55318

Label plates, framed, 20 pcs
Color yellow
Art. No.: 55316

Grounding Strap

For M4
Length = 100 mm
Art. No.: 4000-71001-0410004

Additional accessories and information such as data sheets,
installation manuals etc. are available in our Online Shop

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