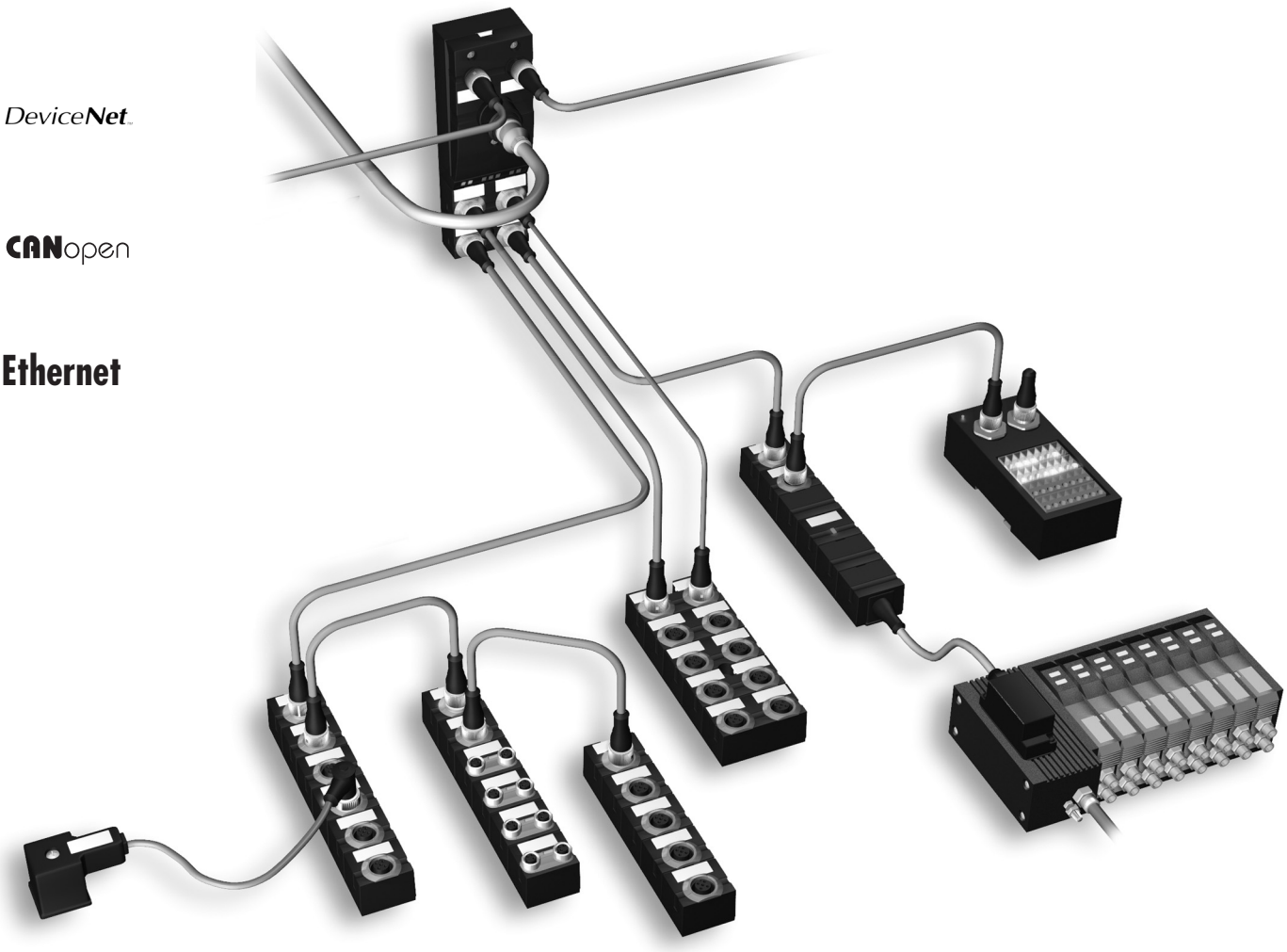
PROFIBUS

DeviceNet

CANopen

Ethernet



Cube67 – the modular bus system

Cube67 is a decentral I/O system which combines the protection of IP20 and IP67 with the help of its I/O modules – plug connected, robust and fully potted. Starting at the bus coupler, the I/O layer spreads radially throughout the application – connected via hybrid cable. Digital, analog and serial signals, temperature sensing, counters, valve cluster, drive or service panel coupling are available. The system offers end-to-end, channel-specific debugging right down to the sensor/actuator. The digital channels are freely programmable, so that the plug position or the signal terminal can be used as an input or output (multifunctional).

Cube67 – new reflection for an efficient installation

- **Simplified planning**
- **Reduced cost of installation**
- **Quicker set-up**
- **Simplifies fault searches**
- **Higher productivity**

Winner of Automation Award 2004

Economical distribution…
… modular, compact and robust

- The I/O layer is where you need it – right in the machine, and close to the sensors and actuators, instead of occupying one large area, or being concentrated in the control cabinet
- The minimal dimensions allow compact construction of the machine – Space problems are past
- LED close to the affected sensor/actuator
- Flexible extendibility
- The shortest of I/O cables

→ Lowers cable costs
→ Saves space in the machine or the control cabinet
→ Switching matrices are no longer needed

Highest flexibility …
… reduces unused sources with multifunctional I/Os
That means free parameterization of the two signals on each plug position, whether input, debugging input or output.

→ Application optimized I/O modules
→ No more unused I/Os
→ No separate input and output modules
→ Reduced number of variants, minimizing the storage costs
→ Highest flexibility for system modifications
→ Exclusive-OR sensors or double valves with central plug take up only one plug position, thus lowering costs, and saving space (plug positions with blind plugs are no longer required)

"Free yourself from the controls" – Change the bus instead of the system – you change only the bus coupler

This makes the machine installation independent of the controls and the field bus, which means that the application can be adapted to the final customer's SPC specifications without you having to modify the I/O periphery

- Standardization of the installation
- Possibility of flexible response to all specifications from end users
- Configure the machine only once
- Create the documentation only once
- System skills needed only once
- Minimizes storage costs

"Don't look for errors – find them" –
Total diagnostic
That means detailed information on type and location of the fault or error

- Single-channel diagnostic and shut down
- Detailed message to controls
- Monitoring and shut down of the Cube67 system connection

→ Errors are found more quickly, systems may be able to continue operation
→ Minimizes system down times
→ Shortens time for commissioning
→ Makes remote maintenance possible for the first time
→ Only the „affected" plug position shuts down, not the whole module

Quicker set-up…
…Assemble and plug in – that's all!

- Elaborate parallel and single-core wiring replaced by quick, simple plugging
- Only one hybrid cable instead of wide cable conduits
- No addressing or separate parameterization of individual I/O modules
- Pre-wired cables in different lengths

→ Shortens commissioning time
→ Reduces cable costs
→ Avoids wiring errors
→ Quick swapping of cables

Integrated Machine Variant Management

As a rule, each machine variant or optional enhancement requires an individual hardware configuration, and with it a separate software version.

With Integrated Machine Variant Management (IMVM), you configure the potential fully enhanced version virtually – the system automatically adapts to the actual hardware structure in the real machine. Elaborate software adaptation and administration for each type of machine are no longer necessary. The variety of software is reduced to one version per machine series.

Optional retro-fitting made easy – at the touch of a button.

Cube67 - Modular I/O station

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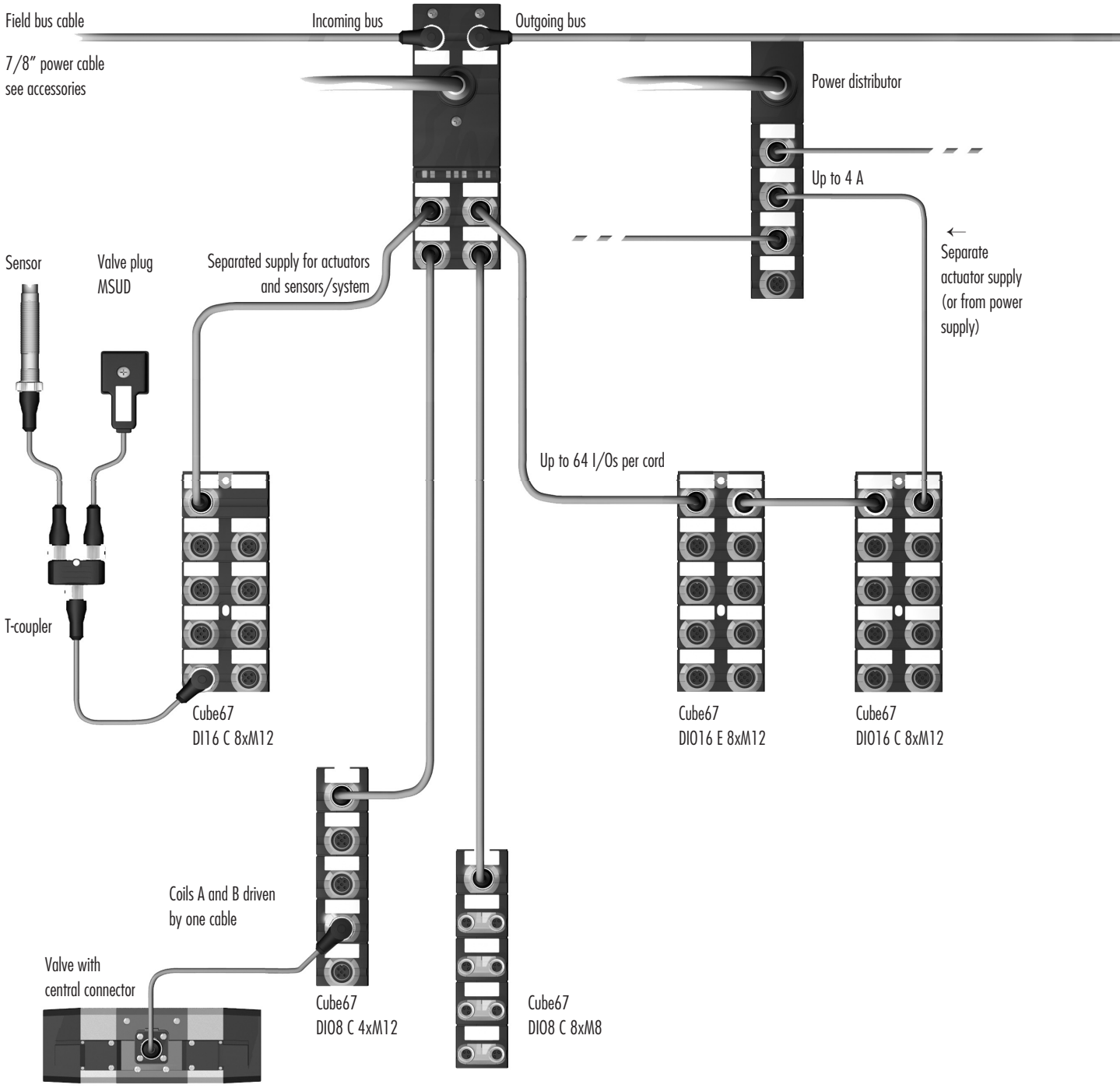
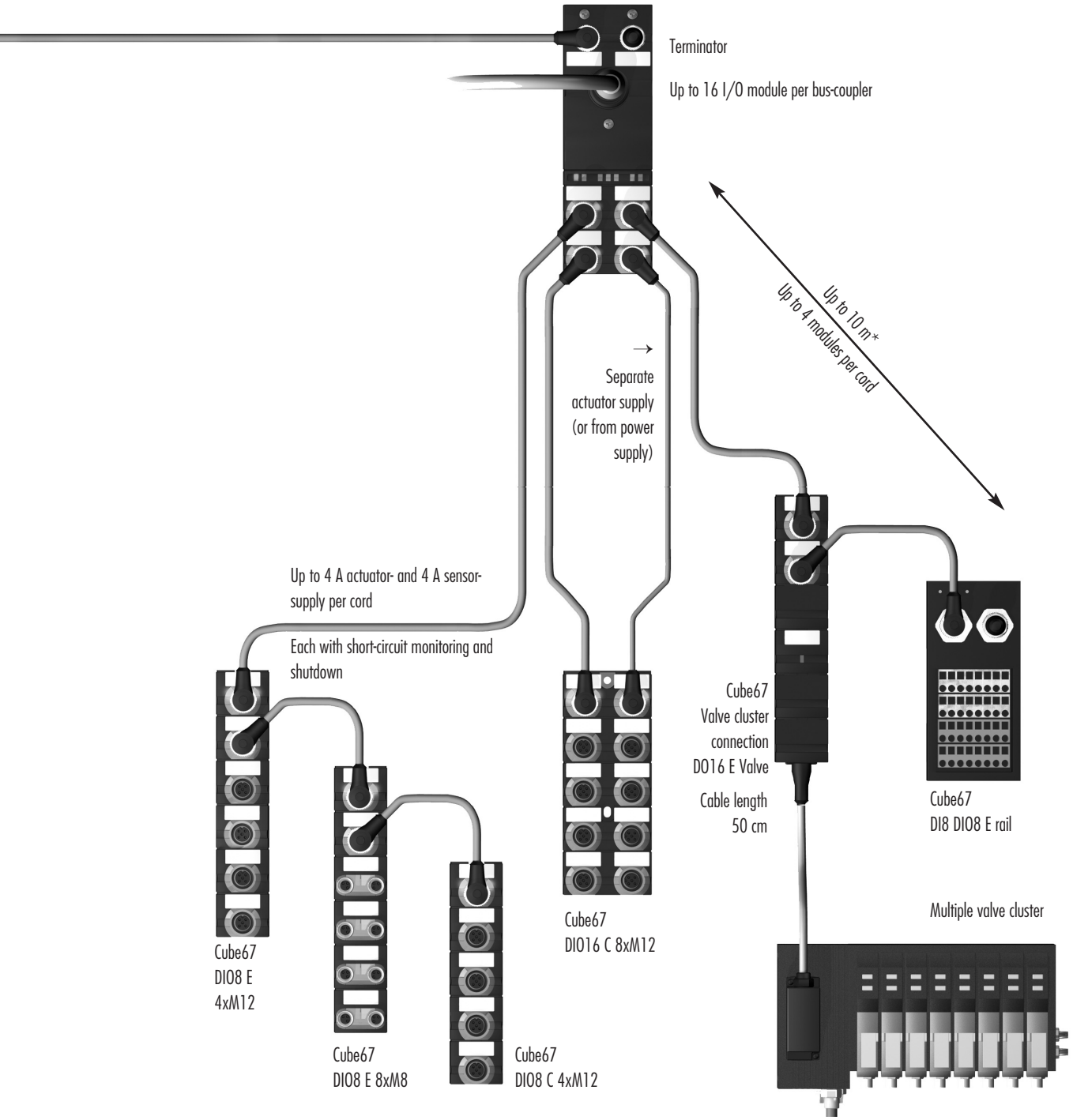


Explanation

To make it easier for you to find your way through, we have structured the product designations in our Cube67 range "mnemonically"

Example : **Cube67** **DIO16** **C** **8xM12**

- **8xM12**: 8 x M12 plugs
- **C**: C = compact module, E = expansion module
- **DIO16**: 16 channels freely parameterizable (input, output and debugging input)
- **Cube67**: product family



System description

■ Number of modules per bus node	16
■ Number of modules per cord	4
■ Addressing	automatically
■ Connection	one cable
■ Max. distance between bus coupler and end of cord	10 m *
■ Topology	star/line
■ Data security	Hamming – distance 6
■ Transmission type	change of state

*follow project advice

Single-channel diagnostic Display per PIN

- Sensor short-circuit
- Actuator short-circuit
- Undervoltage
- Wrong connection
- DESINA®-Diagnostic

Display

■ Module OK	= green
■ Initialization/no data exchange	= green flashing
■ Diagnostic	= red
■ Signal status	= yellow