

HYBRID SOLUTIONS



ALL-IN-ONE: POWER, SIGNAL AND ETHERNET

Hybrid solutions save time, space and money

Single-cable solutions with hybrid connectors (OCT – One Cable Technology) are becoming increasingly important in automation and robotics. They transmit power, signals and Ethernet in a single connection. This saves assembly time, space and money. HUMMEL's connectors are characterized by their absolute suitability for industrial applications. Metal housings protect the impact-sensitive contact inserts safely and reliably. The various housings, inserts and contacts can be combined and thus offer a large number of variants.

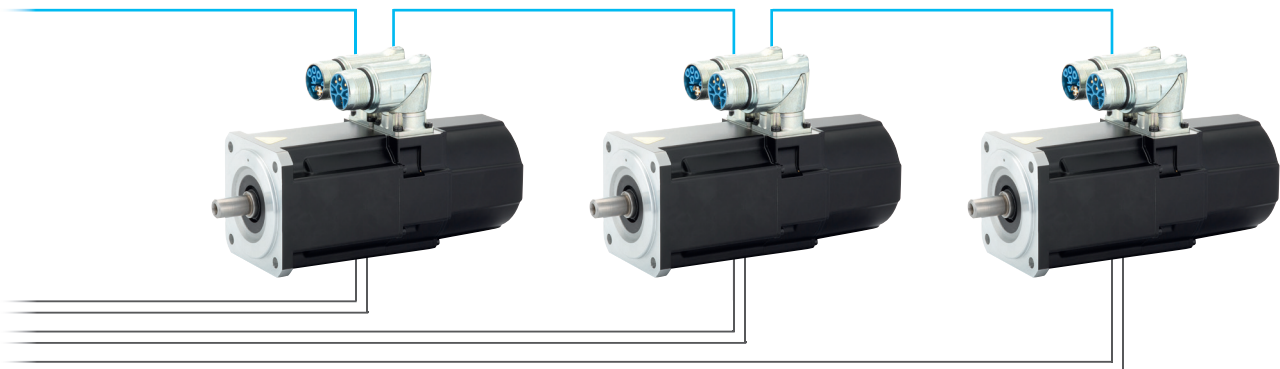
Hybrid solutions

- // Reduced number of connectors
- // Reduced assembly effort
- // UL and VDE approvals
- // Mechanical protection of the contact inserts
- // Additional option: Combining different cables into one connector (multi-use)



One Cable Technology (Daisy Chain)

- // Reduced number of cables
- // Reduced cabling complexity
- // Less weight, less space
- // Shorter assembly time

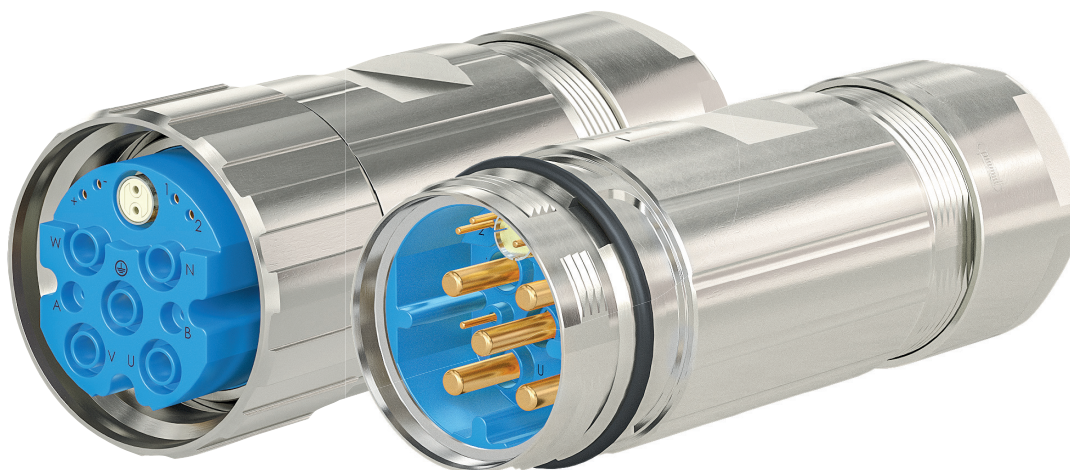
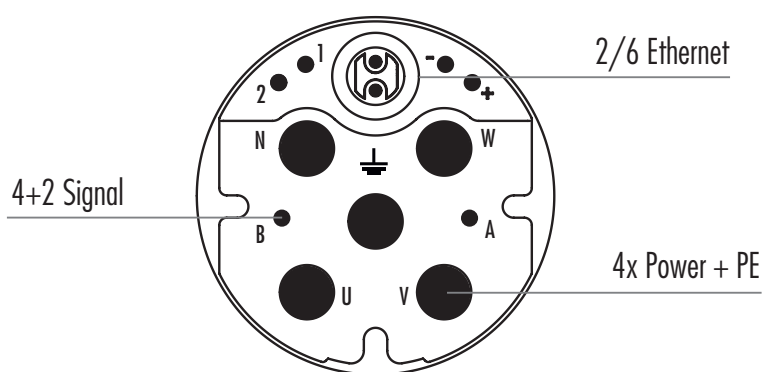


Conventional cabling

The robust power pack

The M 40 Hybrid combines the power of the standard series with the versatility of a hybrid connector. This circular connector transmits power up to 55 A and data rates up to 100 Mbit/s in parallel. A special feature is the high electrical characteristics of the signal contacts. They enable servo technology users to realize transmission rates of up to 300 V/8 A for brakes.

- // Compact and robust design
- // Absolute industrial suitability for harsh environments
- // Screw or quick-lock fastener
- // TWILOCK-S: Female side intermateable with Speedtec



Electrical Data



	Power	Signal	Ethernet
Number of contacts	4+PE	4+2	2 / 6
Contact diameter	3.6 mm	1 mm	1/0.6 mm
AWG	8-16	16-26	16-26 / 22-30
Nominal current	55 A	7 A	2/1.2 A
Nominal voltage	630 AC 850 DC	150/300 V~	30 V~
Test voltage	4000 V~	500/1500 V~	500 V~
Data transfer	–	–	Cat5e

The powerful all-in-one solution

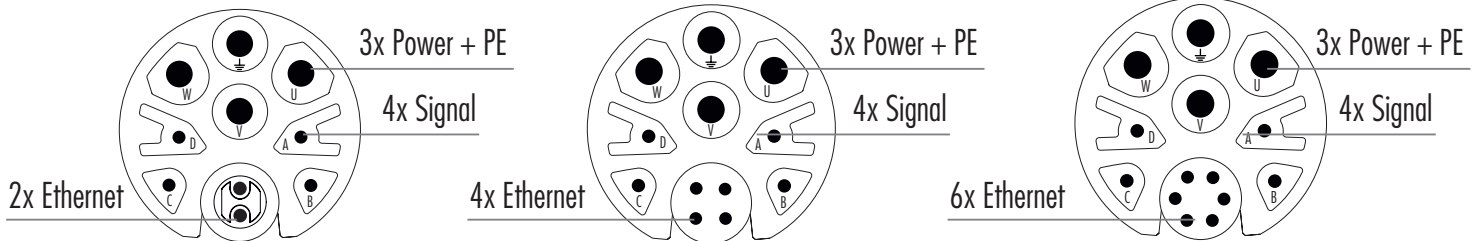
The M 23 Hybrid is the compact all-in-one solution for power, Fast Ethernet and signal transmission. The connector transmits data > 500 Mbit/s with high power density. This makes the M 23 Hybrid the ideal solution for single cable applications in automation and robotics.

- // Numerous housing types
- // Screw or quick-lock fastener
- // Modular design offers many variants
- // TWILOCK
- // PVVA / PVVA7: E494488

Type 1 (2+4+3+PE)

Type 1 (4+4+3+PE)

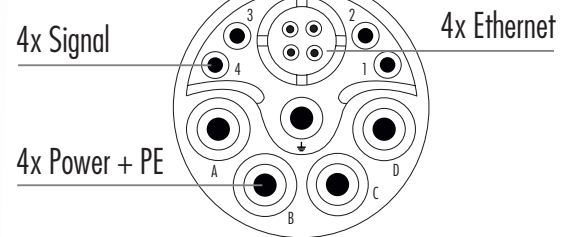
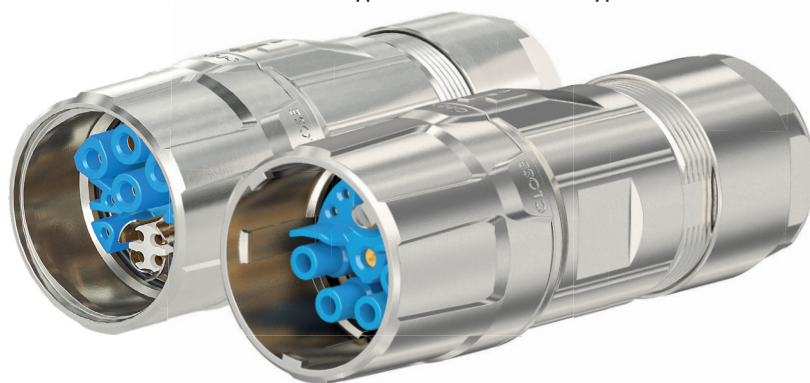
Type 1 (6+4+3+PE)



Type 1

Type 2

Type 2 (4+4+4+PE)



Electrical Data

	Type 1			Type 2		
	Power	Signal	Ethernet	Power	Signal	Ethernet
Number of contacts	3+PE	4	2 / 4 / 6	4+PE	4	4
Contact diameter	2 mm	1 mm	1 / 0,6 / 0,6 mm	2 mm	1 mm	0,8 mm
AWG	12-20	16-26	16-26 / 22-30 / 22-30	12-20	16-26	22-30
Nominal current	28 A	8 A	2 / 1,2 / 1,2 A	28 A	8 A	2 A
Nominal voltage	600 AC 850 DC	300 V~	60 / 60 / 30 V~	600 AC 850 DC	50 V~	50 V~
Test voltage	4000 V~	2500 V~	500 V~	3310 V~	500 V~	500 V~
Data transfer	–	–	Cat5e	–	–	Cat5e

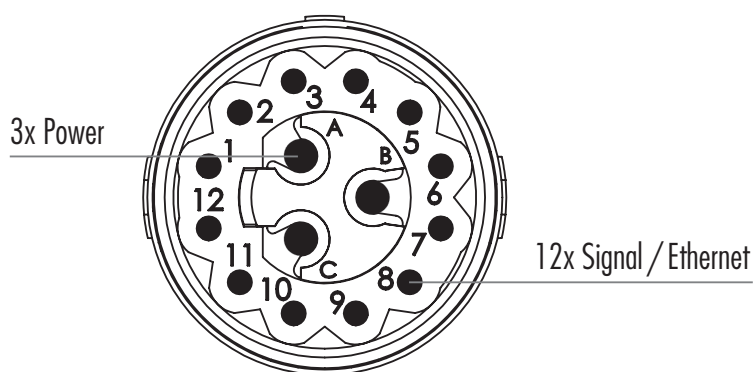


M 16 (12+3)

The proven and compact connection

The M 16 connector (12+3) offers a proven solution with power processing up to 12 A and a data transfer rate of up to 100 Mbit/s. The user receives a compact connection solution with attractive performance.

- // Proven and compact solution
- // Power processing up to 12 A
- // Low space requirement, low weight
- // Perfect for narrow installation space and small devices



Electrical Data



	Power	Signal / Ethernet
Number of contacts	3	12
Contact diameter	1.25 mm	0.8 mm
AWG	16-20	22-30
Nominal current	12 A	3 A
Nominal voltage	60 V~	24 V~
Test voltage	2500 V~	1500 V~
Data transfer	–	Cat5e

The Industrial Ethernet solutions

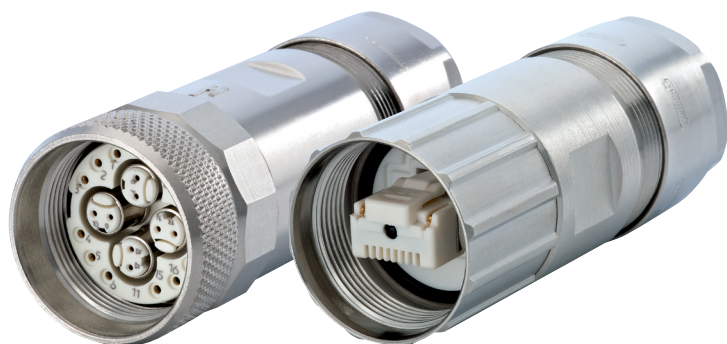
The M23 RJ45 and M23 Profinet connector series ideally complement the HUMMEL Industrial Ethernet range. These two connection solutions are proven variants suitable for industrial applications for transmitting high data rates in automation and robotics. They are available in numerous housing designs. The robust metal housing provides reliable mechanical protection for the impact-sensitive contact inserts even in harsh environments.

M 23 Profinet

- // Data transmission up to the gigabit range
- // Five separate shield potentials
- // Secure data transfer without crosstalk
- // Four shielded Twinax inserts
- // Twelve additional positions for signal or power

M 23 RJ 45

- // Robust metal housing for RJ 45 patch cable
- // Industrial use of common network cables
- // Protection class IP 67 (connected)
- // Suitable for continuous operation or maintenance interface
- // Different designs for a wide range of applications



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