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Sensor/actuator box, application: Robots and drag chains, connection method: M12-SPEEDCON-socket Metal, number of slots: 8, number of positions: 5, coding: A - standard, slot assignment: Double, status display: yes, pnp; master cable connection: Fixed connection 180°, PUR, halogen free, highly flexible, highly flexible, cable length: 5 m, shielding: no

Why buy this product

- Safety in the field, thanks to molded housing and high degree of protection
- Flexible, distributed bundling of signals in one master cable
- ☑ Convenient: increased machine availability thanks to quick and easy diagnostics
- Save space: distributor box with double occupancy for two sensors in one slot



Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 536110
GTIN	4046356536110

Technical data

General

Rated voltage	24 V DC
Max. operating voltage U _{max}	30 V DC
Current carrying capacity per I/O signal	2 A
Current carrying capacity per slot	4 A
Total rated current	12 A
Number of positions	5
Number of slots	8
Flammability rating according to UL 94	V0
Sensor/actuator connection system	M12-SPEEDCON-socket

Ambient conditions

Degree of protection	IP65



Technical data

Ambient conditions

	IP67
	IP69K
Ambient temperature (operation)	-30 °C 90 °C
	-40 °C 90 °C (cable, fixed installation)
	-5 °C 80 °C (cable, flexible installation)

Master cable connection data

Connection method	Fixed connection
Length of cable	5 m
Tightening torque slot sensor/actuator cable	0.4 Nm
Tightening torque of mounting screw for fixing the housing	0.5 Nm

Insulation material

Housing material	РВТ
Material of the moulding mass	PUR
Contact material	Cu alloy
Contact surface material	gold-plated
Contact carrier material	PA
Material of threaded sleeve	Zinc die-cast
Material of threaded sleeve surface	Nickel-plated
O-ring material	NBR

Pin assignment

Slot/position = Wire color or connection	1 / 4 (A) = WH
	1 / 2 (B) = GY/PK
	2 / 4 (A) = GN
	2 / 2 (B) = RD/BU
	3 / 4 (A) = YE
	3 / 2 (B) = WH/GN
	4 / 4 (A) = GY
	4 / 2 (B) = BN/GN
	5 / 4 (A) = PK
	5 / 2 (B) = WH/YE
	6 / 4 (A) = RD
	6 / 2 (B) = YE/BN
	7 / 4 (A) = BK
	7 / 2 (B) = WH/GY
	8 / 4 (A) = VT
	8 / 2 (B) = GY/BN
	1-8 / 1 (+ 24 V) = BN
	1-8 / 3 (0 V) = BU
	1-8 / 5 (PE) = GN/YE



Technical data

Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	V0

Cable

Cable type (abbreviation) 80MC Cable abbreviation L59Y11Y-J-EFK Conductor cross section 16 x 0.5 mm² (Signal line) AWG signal line 20 AWG signal line 28 x 0.15 mm Conductor structure signal line 28 x 0.15 mm Conductor structure, voltage supply 56 x 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, violet, grapylpink, red/blow, white/gray, gray/brown Overall twist Wire stivisted to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 90 mm Mumber of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Acceleration 5 m/s² Torsion force ± 120 °m (> 3 million torsion cycles) Outer sheath, material Bare Cu litz wires Insulation resistance ≥ 10 MC/Ym (at 20 °C) Conductor material Bare Cu litz wires Insulation r	Cable type	PUR halogen-free, highly flexible
Conductor cross section 16x 0.5 mm² (Signal line) AWG signal line 3x 1 mm² (power line) AWG power supply 17 Conductor structure signal line 28x 0.15 mm Conductor structure, voltage supply 56x 0.15 mm Conductor structure, voltage supply 56x 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/brown Overall twist Wire stristed to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, fixed installation 120 mm Smallest bending radius, movable installation 120 mm Traversing path 5 m Traversing path 5 ms² Torsion force 5 ms² Outer sheath, material PIP Material conductor insulation PP Conductor meterial Bare Cu litz wires Insulation resistance 10 MC² mm (st 20 °C) Conductor resistance	Cable type (abbreviation)	80MC
AWG signal line 20 AWG power supply 17 Conductor structure signal line 28 × 0.15 mm Conductor structure, voltage supply 56 × 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, whitelgray, gray/brown Overall twist Wire stwisted to an optimum in two layers External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 "/m (≥ 3 million torsion cycles) Outer sheath, material Bree Cu litz wires Insulation resistance > 10 MΩ*km (at 20 "C) Conductor material Bare Cu litz wires Insulation resistance > 10 MΩ*km (at 20 "C) Conductor resistance 39 O/km (Signal line) Nominal voltage, cable 300 V	Cable abbreviation	LS9Y11Y-J-EFK
AWG signal line 20 AWG power supply 17 Conductor structure signal line 28x 0.15 mm Conductor structure, voltage supply 56x 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, volet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/prown, white/gray, gray/brown Overall twist Wire stwisted to an optimum in two layers External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, invovable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Acceleration 5 m/s² Torsion force ± 120 °m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ± 10 MΩ*km (at 20 °C) Conductor resistance 39 0/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Spec	Conductor cross section	16x 0.5 mm² (Signal line)
AWG power supply 17 Conductor structure signal line 28x 0.15 mm Conductor structure, voltage supply 56x 0.15 mm Wire colors brown, bitue, green/yellow, white, green, yellow, gray, pink, red, black, violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/brown Overall twist Wire stwisted to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 50000000 Bending radius 120 mm Traversing path 5 m Taversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 */m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 *C) Conductor resistance 390 km (Signal line) Nominal voltage, cable 300 V		3x 1 mm² (power line)
Conductor structure signal line 28x 0.15 mm Conductor structure, voltage supply 56x 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, voltel, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/brown Overall twist Wires twisted to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Acceleration 5 m/s² Torsion force ± 120 */m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 *C) Conductor resistance 39 0/km (Signal line) Nominal voltage, cable 300 V Special properties Silicone-free Fiame resistance DIN EN 50265-2-1<	AWG signal line	20
Conductor structure, voltage supply 56x 0.15 mm Wire colors brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/brown Overall twist External sheath, color External sheath, color External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing path 5 m/s² Torsion force 1 ± 120 "/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance 19.0 M/k m(at 20 "C) Conductor resistance 39.0/km (signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Special properties Fiene of substances which would hinder coating with paint or varnish Fiame resistance DIN EN 50265-2-1 Halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	AWG power supply	17
brown, blue, green/yellow, white, green, yellow, gray, pink, red, black, violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/prown Overall twist Wires twisted to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing path 5 m/s² Torsion force 5 m/s² Torsion force 1 120 "/m (≥ 3 million torsion cycles) Outer sheath, material PUR Conductor insulation PP Conductor material Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable 5 ree of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free Free of substances with DIN EN 60811-2-1	Conductor structure signal line	28x 0.15 mm
Wire colors violet, gray/pink, red/blue, white/green, brown/green, white/yellow, yellow/brown, white/gray, gray/prown Overall twist Wires twisted to an optimum in two layers External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free	Conductor structure, voltage supply	56x 0.15 mm
External sheath, color black RAL 9005 External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Special properties 300 V Special properties 38 Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free	Wire colors	violet, gray/pink, red/blue, white/green, brown/green, white/yellow,
External cable diameter D 10.75 mm Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Test voltage, cable 300 ∨ Nominal voltage, cable 300 ∨ Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Overall twist	Wires twisted to an optimum in two layers
Smallest bending radius, fixed installation 90 mm Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	External sheath, color	black RAL 9005
Smallest bending radius, movable installation 120 mm Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	External cable diameter D	10.75 mm
Number of bending cycles 5000000 Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Smallest bending radius, fixed installation	90 mm
Bending radius 120 mm Traversing path 5 m Traversing rate 3 m/s Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Smallest bending radius, movable installation	120 mm
Traversing path Foreign rate Som/s Acceleration Som/s Acceleration Som/s Torsion force £ 120°/m (≥ 3 million torsion cycles) Outer sheath, material Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20°C) Conductor resistance 39 Ω/km (Signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Number of bending cycles	5000000
Traversing rate Acceleration 5 m/s² Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free Resistance to oil	Bending radius	120 mm
Acceleration 5 m/s² Torsion force $\pm 120 ^{\circ}$ /m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Traversing path	5 m
Torsion force ± 120 °/m (≥ 3 million torsion cycles) Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) 19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Traversing rate	3 m/s
Outer sheath, material PUR Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Acceleration	5 m/s ²
Material conductor insulation PP Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Torsion force	± 120 °/m (≥ 3 million torsion cycles)
Conductor material Bare Cu litz wires Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Fee of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Outer sheath, material	PUR
Insulation resistance ≥ 10 MΩ*km (at 20 °C) Conductor resistance 39 Ω/km (Signal line) Nominal voltage, cable 19.5 Ω/m (power line) Nominal voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Material conductor insulation	PP
Conductor resistance39 Ω/km (Signal line)19.5 Ω/m (power line)Nominal voltage, cable300 VTest voltage, cable2000 VSpecial propertiesSilicone-freeFree of substances which would hinder coating with paint or varnishFlame resistanceDIN EN 50265-2-1Halogen-freeThe cable is halogen-freeResistance to oilin accordance with DIN EN 60811-2-1	Conductor material	Bare Cu litz wires
19.5 Ω/m (power line) Nominal voltage, cable 300 V Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Insulation resistance	≥ 10 MΩ*km (at 20 °C)
Nominal voltage, cable Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Conductor resistance	39 Ω/km (Signal line)
Test voltage, cable 2000 V Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1		19.5 Ω/m (power line)
Special properties Silicone-free Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Nominal voltage, cable	300 V
Free of substances which would hinder coating with paint or varnish Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Test voltage, cable	2000 V
Flame resistance DIN EN 50265-2-1 Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1	Special properties	Silicone-free
Halogen-free The cable is halogen-free Resistance to oil in accordance with DIN EN 60811-2-1		Free of substances which would hinder coating with paint or varnish
Resistance to oil in accordance with DIN EN 60811-2-1	Flame resistance	DIN EN 50265-2-1
	Halogen-free	The cable is halogen-free
Other resistance somewhat resistant to welding sparks	Resistance to oil	in accordance with DIN EN 60811-2-1
	Other resistance	somewhat resistant to welding sparks



Technical data

Cable

Ambient temperature (operation)	-30 °C 70 °C (cable, fixed installation)
	5 °C 70 °C (cable, flexible installation)

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Schematic diagram



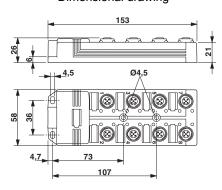
M12 slot, socket, 5-pos.

Cable cross section

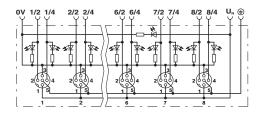


PUR halogen-free, highly flexible [80MC]

Dimensional drawing



Circuit diagram



Approvals

Approvals

Approvals

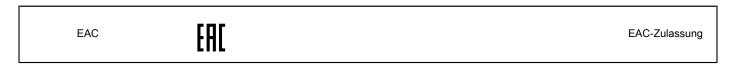
EAC

Ex Approvals



Approvals

Approval details



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PHOENIX CONTACT GmbH & Co. KG Flachsmarktstr. 8 32825 Blomberg Germany

Tel. +49 5235 300 Fax +49 5235 3 41200

http://www.phoenixcontact.com