

# **PMA® EMC System**

Cable Protection System  
providing electro-magnetic  
shielding

# EMC Systems

## Electromagnetic shielding with PMA®

The PMA EMC System provides an additional function within the PMA Cable Protection System, offering high quality shielding against electro-magnetic signals over and above the mechanical cable protection.

The EMC product line includes screening braids (tin-plated copper and hybrid braids) and a range of patented termination fittings (metallic components in nickel plated aluminium or nickel plated brass). The EMC system can be combined with any type of PMA conduit to provide the mechanical protection.

- Conduits and cables are key components for the design of electromagnetic compatible (EMC) electrical installations
- Apart from the inherent electrical insulation of the cable, additional shielding braids can be

employed either (i) to reduce the emission of noise from sources such as power cables or power converters or (ii) to protect safeguard sensitive elements like control, sensor, or signal cables

- Optimal results are achieved through low transfer impedance and high screening attenuation
- To minimize inductive coupling, it is advisable to ground the shield on both sides.
- The shielding effectiveness of a braid is heavily influenced by its optical coverage, and it diminishes when the braid is expanded to accommodate too many cables.

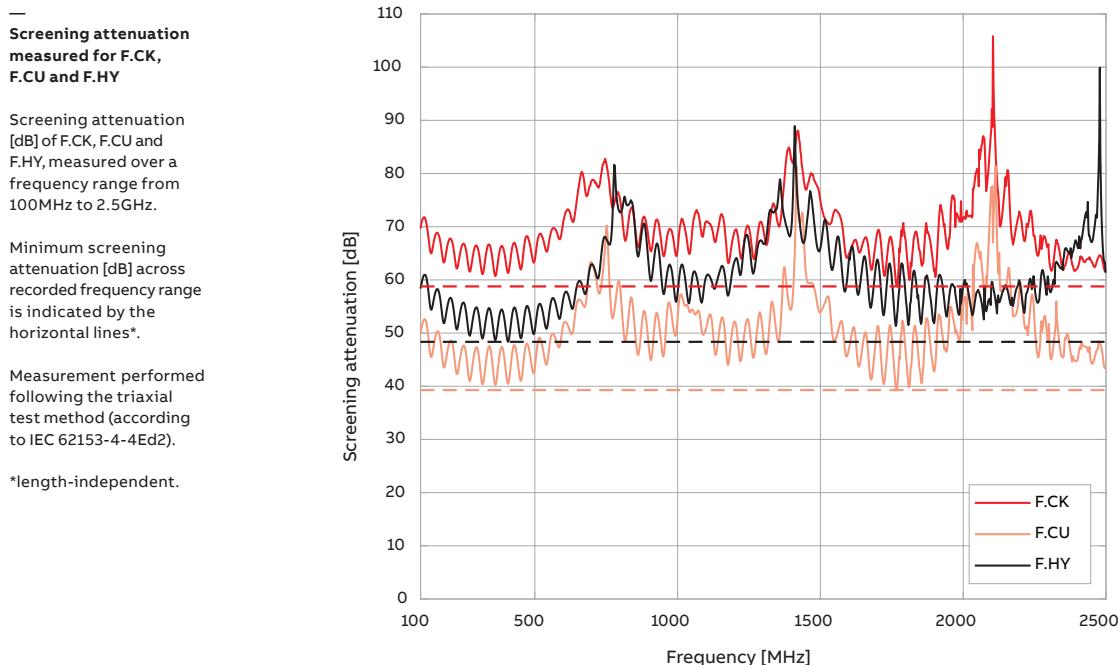
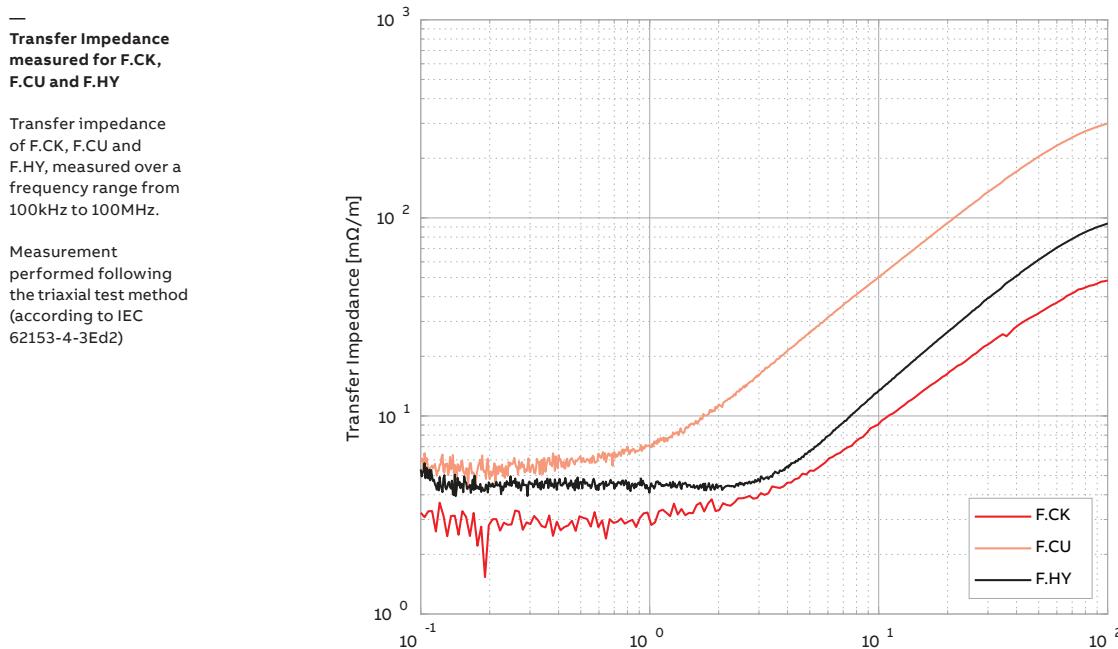
The effectiveness of cable shields can be quantified by measuring the transfer impedance and screening attenuation.

Both quantities can be measured using the triaxial test method following the standards IEC 62153-4-3Ed2, IEC 62153-4-4Ed2, IEC 62153-4-7Ed3.



## Shielding effectiveness

The F.CK, F.HY and F.CU braids provide excellent shielding for electro-magnetic interference. The EMC fittings allow a low impedance 360° termination of the braid preventing stray signals and an earth connection via the termination thread, in addition to the standard water and dust tight conduit termination. The shielding effectiveness has been quantified by measuring the transfer impedance and screening attenuation using the triaxial test method following the standards IEC 62153-4-3Ed2, IEC 62153-4-4Ed2, IEC 62153-4-7Ed3.



## PMA EMC System screening braid

Type F.CK



### Type F.CK - PMA EMC System screening braid

- Finest tin-plated copper wires
- Delivered on tube former
- Coverage: > 90%

#### Type F.CK - PMA EMC System screening braid

Order No.	NW	Braid specification	Cross section mm <sup>2</sup>	Operative range		Weight net per 100 m*	PU (pcs)
				min. Ø	max. Ø		
F.CK.03	3	16 x 5 x 0.13	1.06	2.5 mm	3.5 mm	1.3 kg	100
F.CK.04	4	16 x 7 x 0.13	1.48	3.0 mm	5.0 mm	1.8 kg	100
F.CK.06	6	24 x 7 x 0.13	2.22	4.5 mm	7.0 mm	2.6 kg	100
F.CK.10	10	24 x 11 x 0.13	3.50	7.0 mm	12.0 mm	4.1 kg	100
F.CK.12.5	12.5	24 x 14 x 0.13	4.45	11.0 mm	13.0 mm	5.1 kg	100
F.CK.15	15	24 x 14 x 0.15	5.93	13.0 mm	18.0 mm	7.0 kg	100
F.CK.20	20	48 x 10 x 0.15	8.48	16.0 mm	35.0 mm	8.9 kg	50
F.CK.25	25	48 x 13 x 0.15	11.02	22.0 mm	40.0 mm	12.1 kg	50
F.CK.30	30	48 x 20 x 0.15	16.96	27.0 mm	44.0 mm	18.8 kg	50
F.CK.35	35	48 x 20 x 0.15	16.96	35.0 mm	50.0 mm	19.1 kg	50
F.CK.50	50	36 x 14 x 0.30	35.62	40.0 mm	60.0 mm	40.1 kg	25

\* with tube former.

#### Technical data

Screening attenuation ranging from 58-105dB across measured frequency range from 100MHz - 2500MHz

Due to tube former: no fold up of braid, easier processing and installation

Temperature range: -65 °C to +150 °C

## PMA EMC System screening braid

Type F.CU



### Type F.CU - PMA EMC System screening braid

- Finest tin-plated copper wires
- Coverage: > 65%

#### Type F.CU - PMA EMC System screening braid

Order No.	NW	Braid specification	Cross section mm <sup>2</sup>	Operative range		Weight net per 100 m	PU (pcs)
				min. Ø	max. Ø		
F.CU.01	1	16 x 4 x 0.10	0.5	1.0 mm	3.0 mm	0.5 kg	100
F.CU.04	4	24 x 7 x 0.10	1.3	3.0 mm	8.0 mm	1.3 kg	100
F.CU.10	10	24 x 11 x 0.10	2.0	4.0 mm	10.0 mm	2.6 kg	100
F.CU.12	12	36 x 11 x 0.10	3.1	6.0 mm	15.0 mm	2.9 kg	100
F.CU.20	20	36 x 8 x 0.15	5.1	12.0 mm	25.0 mm	4.7 kg	100
F.CU.40	40	48 x 7 x 0.25	16.5	24.0 mm	49.0 mm	22.3 kg	50
F.CU.50	50	48 x 9 x 0.30	30.5	45.0 mm	55.0 mm	28.2 kg	25

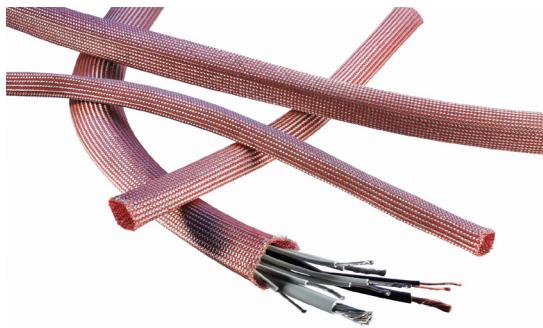
#### Technical data

Screening attenuation ranging from 39-81dB across measured frequency range from 100MHz - 2500MHz

Temperature range: -65 °C to +150 °C

## PMA EMC System screening braid

Type F.HY



**Type F.HY - PMA EMC Hybrid screening braid, very flexible, lightweight**

- Finest tin-plated copper wires mixed with polyester monofilament
- Surface coverage: > 95%

**Type F.HY - PMA EMC Hybrid screening braid, very flexible, lightweight**

Order no.	Braid specification	Operative range min. Ø (mm)	Operative range max. Ø (mm)	PU (pcs)
F.HY.10*	48 x 8 x 0.1	8.0	13.0	50
F.HY.12*	56 x 8 x 0.1	10.0	15.0	50
F.HY.15	68 x 10 x 0.1	12.0	18.0	50
F.HY.20	72 x 10 x 0.1	19.0	27.0	50
F.HY.35	120 x 10 x 0.1	30.0	40.0	50
F.HY.40	120 x 16 x 0.1	30.0	50.0	50

\* with tube former.

### Technical data

Screening attenuation ranging from 48-88dB across measured frequency range from 100MHz - 2500MHz

Very high flexibility, for dynamic applications

Excellent abrasion and vibration resistance

Free from halogens

Colour: Metal / Red

Temperature range: -40 °C to +150 °C

# EMC System

## PMA® Connectors

PMA EMC connectors are designed for optimal termination of the PMA tinned copper screening braids F.CK, F.CU and the hybrid screening braid F.HY. Partially they can also be used to terminate the shield of screened cables and wires.

The connectors are used to be combined with PMA conduits for flexible protection of screened cables and wires or pre-assembled cable looms against mechanical damage.

### General technical details

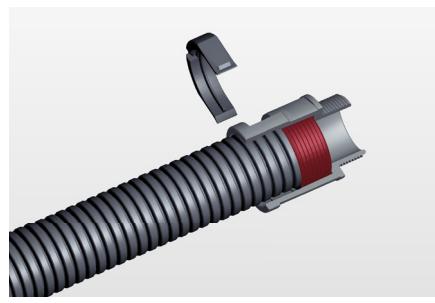
#### Material

- Connectors and accessories made of high-grade, specially formulated polyamide 6
- EMV threaded components made of nickel plated aluminium
- Strain relief components made of nickel plated brass

- Free from halogens, REACH + RoHS compliant
- Self-extinguishing
- Temperature range: -40 °C to +105 °C, short-term to +160 °C

#### Characteristics

- 360° braid termination: high degree of safety in case of short-circuiting
- Low coupling resistances, low transfer impedances
- Disturbance signals, such as electrical signals and magnetic fields will be discharged to the housing/casing
- Very high impact resistance
- High conduit pull-out strengths
- Vibration proof connection to PMA conduits
- Can be pre-assembled in cable harness systems



PMAFIX, IP68

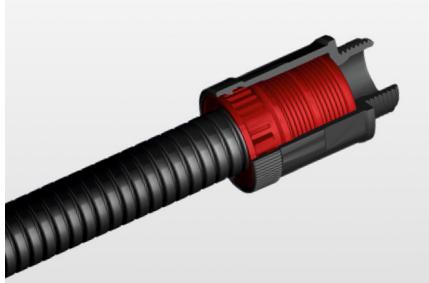
### IP68

#### IP68 static

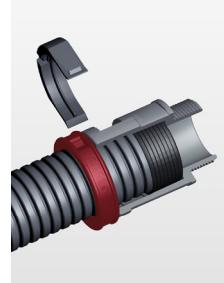
#### IP67 dynamic

#### IP69 according to DIN 40050

- High sealing through additional seal cap
- For highest dynamic applications
- Content of delivery: Conduit sealing cap, locking clip and thread sealing element for male threads (O-ring and/or flat gasket)



PMAFIX Pro



PMAFIX, IP68 + WPS

### IP68 + IP69

#### static + dynamic

- Highest sealing through fully closed system
- For highest dynamic applications
- Content of delivery: Fitting body with locking and sealing element, O-ring for male threads

## PMA EMCFIX fittings

Type BVEMV



### Type BVEMV / PMA EMCFIX - Straight fitting, metric metal thread, long and short

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables
- IP68 Ingress protection

Type BVEMV / PMA EMCFIX - Straight fitting, metric metal thread, long and short

Order no. black, IP68	Thread size Metric	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Fits to F.HY	Thread length (mm)	Overall length (mm)	PU (pcs)
BVEMV-M120-5	M12 x 1.5	10	10	10	-	5.0	65.0	1
BVEMV-M120-10	M12 x 1.5	10	10	10	-	10.0	70.0	1
BVEMV-M162-5	M16 x 1.5	12	12.5	12	12	5.0	70.0	1
BVEMV-M162-10	M16 x 1.5	12	12.5	12	12	10.0	75.0	1
BVEMV-M207-6	M20 x 1.5	17	15	20	15	6.0	80.0	1
BVEMV-M207-10	M20 x 1.5	17	15	20	15	10.0	84.0	1
BVEMV-M253-7	M25 x 1.5	23	20/(25)	20	20	7.0	86.0	1
BVEMV-M253-11	M25 x 1.5	23	20/(25)	20	20	11.0	90.0	1
BVEMV-M329-8	M32 x 1.5	29	25/(30)	20/(40)	35	8.0	90.0	1
BVEMV-M329-13	M32 x 1.5	29	25/(30)	20/(40)	35	13.0	95.0	1
BVEMV-M409-13	M40 x 1.5	29	25/(30)	20/(40)	35	13.0	97.0	1
BVEMV-M406-8	M40 x 1.5	36	30/(35)	40	40	8.0	100.0	1
BVEMV-M406-13	M40 x 1.5	36	30/(35)	40	40	13.0	105.0	1
BVEMV-M508-9	M50 x 1.5	48	35	40	40	9.0	105.0	1
BVEMV-M508-14	M50 x 1.5	48	35	40	40	14.0	110.0	1
BVEMV-M638-10	M63 x 1.5	48	35	40	40	10.0	106.0	1
BVEMV-M638-14	M63 x 1.5	48	35	40	40	14.0	110.0	1

#### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

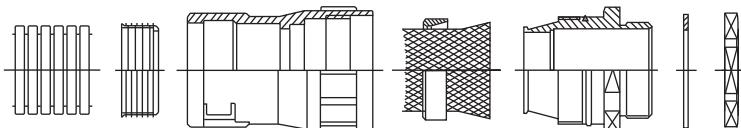
High shielding values and low coupling resistance, low transfer impedances

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)



## PMA EMCFIX fittings

Type BVEMV-SW



### Type BVEMV-SW / PMA EMCFIX - Straight fitting, metric metal thread, positionable

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables
- IP68 Ingress protection

Type BVEMV-SW / PMA EMCFIX - Straight fitting, metric metal thread, positionable

Order no. black, IP68	Thread size Metric	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Fits to F.HY	Thread length (mm)	Overall length (mm)	PU (pcs)
BVEMV-M207SW-10	M20 x 1.5	17	15	20	15	10.0	107.0	1
BVEMV-M329SW-13	M32 x 1.5	29	25/(30)	20/(40)	35	13.0	124.0	1
BVEMV-M406SW-13	M40 x 1.5	36	30/(35)	40	40	13.0	139.0	1
BVEMV-M638SW-14	M63 x 1.5	48	35	40	40	14.0	146.5	1

#### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

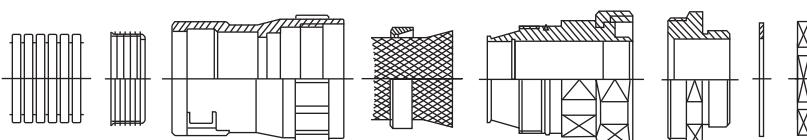
High shielding values and low coupling resistance, low transfer impedances

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)



## PMA EMC System fittings with female thread

Type BVIMV



**Type VIMV / PMA EMC System - Straight fitting, female UN thread for MIL-C5015**

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables
- IP68 Ingress protection

**Type VIMV / PMA EMC System - Straight fitting, female UN thread for MIL-C5015**

Order no. black, IP68	Thread size UN	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Fits to F.HY	Thread length (mm)	Overall length (mm)	PU (pcs)
BVIMV-U182	¾" – 20	12	12.5	12	12	10.0	75.0	1
BVIMV-U212	⅝" – 20	12	12.5	12	12	10.0	75.0	1
BVIMV-U247	1" – 20	17	15	20	15	10.0	85.0	1
BVIMV-U353	1 7/16" – 18	23	20/(25)	20	20	10.0	92.5	1
BVIMV-U357	1 7/16" – 18	17	15	20	15	10.0	87.0	1
BVIMV-U433	1 ¾" – 18	23	20/(25)	20	20	10.0	95.0	1
BVIMV-U569	2 ¼" – 16	29	25/(30)	20/(40)	35	10.0	95.0	1
BVIMV-U566	2 ¼" – 16	36	30/(35)	40	40	10.0	110.0	1
BVIMV-U568	2 ¼" – 16	48	35	40	40	10.0	110.0	1

### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

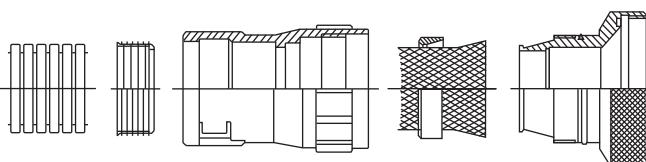
High shielding values and low coupling  
resistance, low transfer impedances

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)



## PMA EMC System fittings with female thread

Type BVIMV



**Type VIMV / PMA EMC System - Straight fitting, female UNEF thread for MIL-C26482G**

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables

**Type VIMV / PMA EMC System - Straight fitting, female UNEF thread for MIL-C26482G**

Order no. black	Thread size UNEF	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Fits to F.HY	Thread length (mm)	Overall length (mm)	PU (pcs)
BVIMV-U212-14	7/8"- 20	12	12.5	12	12	14.0	75.0	1
BVIMV-U247-14	1"- 20	17	15	20	15	14.0	90.0	1
BVIMV-U267-14	1 1/16"- 18	17	15	20	15	14.0	90.0	1
BVIMV-U293-14	1 3/16"- 18	23	20	20	20	14.0	90.0	1
BVIMV-U303-14	1 1/4"- 18	23	20	20	20	14.0	90.0	1
BVIMV-U323-14	1 5/16"- 18	23	20	20	20	14.0	90.0	1
BVIMV-U359-14	1 7/16"- 18	29	20	20	35	14.0	95.0	1

### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

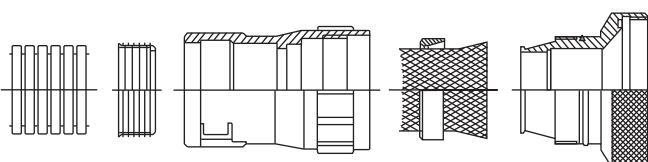
High shielding values and low coupling  
resistance, low transfer impedances

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)



## PMA EMC System adapter

Type HFAK-M



### Type HFAK-M - PMA EMC System adapter

#### with conical braid clamp, metric thread

- Nickel-plated aluminium
- Allows complete pre-assembly of the cable loom

Type HFAK-M - PMA EMC System adapter with conical braid clamp, metric thread

	Order no. black, IP68	Thread size metric		Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Fits to F.HY	ID min.	Thread length (mm)		Overall length (mm)	PU (pcs)
		1	2									
HFAK-M	HFAK-M20/M20-10	M20 x 1.5	M20 x 1.5	12	15	12/20	12/15	9.6	10.0	34.0	34.0	1
	HFAK-M25/M25-11	M25 x 1.5	M25 x 1.5	17	20	20	15/20	14.6	11.0	36.5	36.5	1
	HFAK-M32/M32-13	M32 x 1.5	M32 x 1.5	23	20/25	40	20	20.3	13.0	42.5	42.5	1
	HFAK-M40/M40-13	M40 x 1.5	M40 x 1.5	29	25/30	40	35/40	28.1	13.0	47.0	47.0	1
	HFAK-M50/M50-14	M50 x 1.5	M50 x 1.5	36	30/50	40	40	37.3	14.0	48.5	48.5	1
	HFAK-M63/M63-14	M63 x 1.5	M63 x 1.5	48	35/50	—	40	47.0	14.0	49.0	49.0	1

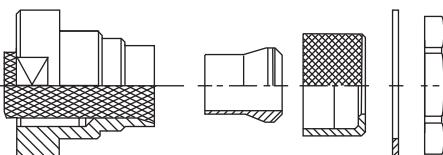
#### Technical data

Low impedance braid connection

High system shielding attenuation in combination with F.CU, F.CK and F.HY

Disturbance signals such as electrical signals and magnetic fields will be discharged to the housing/casing

Colour:	Metal / Black
Temperature range:	-40 °C to +105 °C (Short-term to -160 °C)



## PMA EMCFIX Pro EMC System fittings with strain relief IP69

Type NKEZ-M



### Type NKEZ-M / PMA EMCFIX Pro EMC System - Straight fitting with strain relief, metric metal thread (Pfleitsch system UNI HF DICHT)

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables
- IP68 + IP69 Ingress protection

Type NKEZ-M / PMA EMCFIX Pro EMC System - Straight fitting with strain relief, metric metal thread (Pfleitsch system UNI HF DICHT)

	Order no. black, IP68 + IP69	Thread size metric	Fits to conduit size NW	Clamping range (mm)	Screen Ø (mm)	Ø max. (mm)	Thread length (mm)	Overall length (mm)	PU (pcs)
NKEZ-M	NKEZ-M160/P2	M16 x 1.5	10	5.0 – 8.0	2.5 – 6.0	25.0	6.0	54.5	1
	NKEZ-M160/P3	M16 x 1.5	10	6.5 – 9.5	2.5 – 6.0	25.0	6.0	54.5	1
	NKEZ-M202/P1	M20 x 1.5	12	4.0 – 6.5	2.5 – 6.5	29.0	6.5	61.0	1
	NKEZ-M202/P3	M20 x 1.5	12	6.5 – 9.5	3.5 – 6.5	29.0	6.5	61.5	1
	NKEZ-M207/P3	M20 x 1.5	17	6.5 – 9.5	3.5 – 6.5	35.5	6.5	66.0	1
	NKEZ-M207/P5	M20 x 1.5	17	9.0 – 13.0	6.5 – 10.5	35.5	6.5	66.0	1
	NKEZ-M257/P3	M25 x 1.5	17	6.5 – 9.5	3.0 – 8.0	35.5	7.5	67.5	1
	NKEZ-M257/P5	M25 x 1.5	17	9.0 – 13.0	6.5 – 10.5	35.5	7.5	67.5	1
	NKEZ-M406/P4	M40 x 1.5	36	20.0 – 25.0	18.5 – 25.5	60.5	8.0	99.0	1

#### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

Integrated strain relief

High conduit pull-out strength

Very good chemical properties

Fits both conduit profiles - fine (T) and coarse (G)

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)

## PMA EMCFIX Pro EMC System fittings with strain relief IP69

Type NKEZ-M



### Type NKEZ-M / PMA EMCFIX Pro EMC System - Straight fitting with strain relief, metric metal thread

- PERFECT sealing ring made from NBR
- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- Can be used with either PMA screening braids or shielded cables
- IP68 + IP69 Ingress protection

Type NKEZ-M / PMA EMCFIX Pro EMC System - Straight fitting with strain relief, metric metal thread (PERFECT sealing ring made from NBR)

Order no. black, IP68 + IP69	Thread size metric	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Clamping range (mm)	Thread length (mm)	Overall length (mm)	PU (pcs)
NKEZ-M160-10	M16 x 1.5	10	06	06/10	5.0 – 9.0	10.0	63.0	1
NKEZ-M162-10	M16 x 1.5	12	10/12.5/15	10/12	5.0 – 9.0	10.0	68.5	1
NKEZ-M202-10	M20 x 1.5	12	10/12.5/15	10/12	9.0 – 13.0	10.0	70.5	1
NKEZ-M207-10	M20 x 1.5	17	12.5/15	12/20	9.0 – 13.0	10.0	76.0	1
NKEZ-M253-11	M25 x 1.5	23	15/20/25	20	11.0 – 16.0	11.0	80.0	1
NKEZ-M257-11	M25 x 1.5	17	12.5/15	12/20	11.0 – 16.0	11.0	78.5	1
NKEZ-M323-13	M32 x 1.5	23	15/20/25	20	14.0 – 21.0	13.0	85.5	1
NKEZ-M329-13	M32 x 1.5	29	20/25/30	20	14.0 – 21.0	13.0	90.0	1
NKEZ-M406-13	M40 x 1.5	36	25/30/35	40	19.0 – 27.0	13.0	98.5	1
NKEZ-M409-13	M40 x 1.5	29	20/25/30	20	19.0 – 27.0	13.0	93.0	1
NKEZ-M506-14	M50 x 1.5	36	25/30/35	40	24.0 – 35.0	14.0	106.5	1
NKEZ-M508-14	M50 x 1.5	48	30/35	40	24.0 – 35.0	14.0	112.5	1
NKEZ-M638-14	M63 x 1.5	48	35	40	32.0 – 42.0	14.0	113.5	1

#### Technical data

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

Integrated strain relief

High conduit pull-out strength

Very good chemical properties

Fits both conduit profiles - fine (T) and coarse (G)

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)

## PMA EMC FIX EMC System fittings with strain relief IP68

Type NVEZ-M



**Type NVEZ-M / PMA EMC FIX EMC System -  
Straight fitting with strain relief, metric metal  
thread (Pflitsch system UNI HF DICHT)**

- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- To be used with shielded cables
- IP68 Ingress protection

**Type NVEZ-M / PMA EMC FIX EMC System - Straight fitting with strain relief, metric metal thread (Pflitsch system UNI HF DICHT)**

Order no. black, IP68	Thread size metric	Fits to conduit size NW	Clamping range (mm)	Screen Ø (mm)	Ø max. (mm)	Thread length (mm)	Overall length (mm)	PU (pcs)
NVEZ-M160V/P2	M16 x 1.5	10	5.0 – 8.0	2.5 – 6.0	23.0	6.0	49.5	1
NVEZ-M160V/P3	M16 x 1.5	10	6.5 – 9.5	2.5 – 6.0	23.0	6.0	49.5	1
NVEZ-M160V/P3/1	M16 x 1.5	10	6.5 – 9.5	3.5 – 8.5	26.5	6.0	60.0	1
NVEZ-M202V/P1	M20 x 1.5	12	4.0 – 6.5	2.5 – 6.5	26.5	6.5	54.0	1
NVEZ-M202V/P3	M20 x 1.5	12	6.5 – 9.5	3.5 – 6.5	28.5	6.5	54.0	1
NVEZ-M202V/P5	M20 x 1.5	12	9.0 – 13.0	6.5 – 10.5	26.0	6.5	54.0	1
NVEZ-M207V/P3	M20 x 1.5	17	6.5 – 9.5	3.5 – 6.5	31.0	6.5	60.0	1
NVEZ-M207V/P5	M20 x 1.5	17	9.0 – 13.0	6.5 – 10.5	31.0	6.5	60.0	1
NVEZ-M257V/P3	M25 x 1.5	17	6.5 – 9.5	3.0 – 8.0	31.0	7.5	61.5	1
NVEZ-M257V/P5	M25 x 1.5	17	9.0 – 13.0	6.5 – 10.5	31.0	7.5	61.5	1
NVEZ-M406V/P4	M40 x 1.5	36	20.0 – 25.0	18.5 – 25.5	60.5	8.0	98.5	1

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**Technical data**

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

Integrated strain relief

High conduit pull-out strength

Very good chemical properties

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)

## PMA EMCFIX EMC System fittings with strain relief IP68

Type NVEZ-M



**Type NVEZ-M / PMA EMCFIX EMC System -  
Straight fitting with strain relief,  
metric metal thread**

- PERFECT sealing ring made from NBR
- High-grade, specially formulated polyamide 6
- EMC adapter made from nickel-plated aluminium
- To be used with shielded cables
- IP68 Ingress protection

Type NVEZ-M / PMA EMCFIX EMC System - Straight fitting with strain relief, metric metal thread (PERFECT sealing ring made from NBR)

Order no. black, IP68	Thread size metric	Fits to conduit size NW	Fits to F.CK	Fits to F.CU	Clamping range (mm)	Thread length (mm)	Overall length (mm)	PU (pcs)
NVEZ-M120V-10	M12 x 1.5	10	06	12	3.0 – 6.0	10.0	53.5	1
NVEZ-M160V-10	M16 x 1.5	10	06	20	5.0 – 9.0	10.0	60.0	1
NVEZ-M162V-10	M16 x 1.5	12	10/12.5/15	20	5.0 – 9.0	10.0	61.5	1
NVEZ-M202V-10	M20 x 1.5	12	10/12.5/15	20	9.0 – 13.0	10.0	64.0	1
NVEZ-M207V-10	M20 x 1.5	17	12.5/15	20	9.0 – 13.0	10.0	70.0	1
NVEZ-M253V-11	M25 x 1.5	23	15/20/25	20	11.0 – 16.0	11.0	78.5	1
NVEZ-M257V-11	M25 x 1.5	17	12.5/15	20	11.0 – 16.0	11.0	72.5	1
NVEZ-M323V-13	M32 x 1.5	23	15/20/25	20	14.0 – 21.0	13.0	83.0	1
NVEZ-M329V-13	M32 x 1.5	29	20/25/30	20	14.0 – 21.0	13.0	80.0	1
NVEZ-M406V-13	M40 x 1.5	36	25/30/35	20	19.0 – 27.0	13.0	97.0	1
NVEZ-M409V-13	M40 x 1.5	29	20/25/30	20	19.0 – 27.0	13.0	83.0	1
NVEZ-M506V-14	M50 x 1.5	36	25/30/35	20	24.0 – 35.0	14.0	106.0	1
NVEZ-M508V-14	M50 x 1.5	48	30/35	20	24.0 – 35.0	14.0	105.0	1
NVEZ-M638V-14	M63 x 1.5	48	358	20	32.0 – 42.0	14.0	106.0	1

**Technical data**

Very high impact resistance

Vibration-proof connection to PMAFLEX conduits

Integrated strain relief

High conduit pull-out strength

Very good chemical properties

Fits both conduit profiles - fine (T) and coarse (G)

Self-extinguishing, free from halogens and cadmium

Colour: Metal / Black

Temperature range: -40 °C to +105 °C  
(Short-term to -160 °C)

## Lock nuts, metric, PG

Type MM



### Type MM - Hexagonal lock nut, brass

- Nickel-plated brass
- Maximum possible torque
- Safe system connection

#### Type MM - Hexagonal lock nut, brass, metric/PG thread

Order no.	Fits to thread metric	Wrench size (mm)	Height (mm)	PU (pcs)
GMM-M12	M12 x 1.5	15	2.8	100
GMM-M16	M16 x 1.5	19	2.8	100
GMM-M20	M20 x 1.5	24	3.0	100
GMM-M25	M25 x 1.5	30	3.5	100
GMM-M32	M32 x 1.5	36	4.0	25
GMM-M40	M40 x 1.5	46	4.5	10
GMM-M50	M50 x 1.5	60	5.0	5
GMM-M63	M63 x 1.5	70	5.5	5

Order no.	Fits to thread PG	Wrench size (mm)	Height (mm)	PU (pcs)
GMM-07	07	15	2.8	100
GMM-09	09	18	2.8	100
GMM-11	11	21	3.0	100
GMM-13	13.5	23	3.0	100
GMM-16	16	26	3.0	50
GMM-21	21	32	3.5	50
GMM-29	29	41	4.0	25
GMM-36	36	51	5.0	10
GMM-42	42	60	5.0	5
GMM-48	48	64	5.5	5

#### Type MM - Hexagonal lock nut, brass, metric thread for EMC applications

Order no.	Fits to thread metric	Wrench size (mm)	Height (mm)	PU (pcs)
GMM-M12/EMV	M12 x 1.5	16.6	3.5	100
GMM-M16/EMV	M16 x 1.5	21.0	3.5	100
GMM-M20/EMV	M20 x 1.5	26.7	3.7	100
GMM-M25/EMV	M25 x 1.5	33.5	4.2	100
GMM-M32/EMV	M32 x 1.5	39.0	4.7	100
GMM-M40/EMV	M40 x 1.5	50.0	5.7	50
GMM-M50/EMV	M50 x 1.5	66.0	5.7	10
GMM-M63/EMV	M63 x 1.5	78.0	6.7	10

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## Further information

Visit our website

Visit the PMA web pages on ABB.com for our most up-to-date product lineup, and much more. This is the place to go to find all of the planning documents you need at your fingertips, including :

- Technical data sheets
- General technical details
- CAD files
- Complete PMA EMC product portfolio

The diagram illustrates the interconnected nature of the ABB and PMA websites. A laptop screen shows the ABB website for the VEZ Connector metric. Red arrows point from specific links on this page to detailed product pages on the PMA website. These links include "Technical Data Sheet", "General technical details: EMC System", "CAD files", and "CONNECTOR METRIC". The PMA website pages shown are:

- EMC System**: Describes the EMC System, mentioning its use of tin-plated copper and braid braids made of tin-plated copper wire mesh with polyester monofilament. It also highlights the use of crimped or crimped and soldered connections, and the guarantee against cracking of the strain relief and the good contact between the sheathing braid and the metal shield.
- VEZ Metric**: Provides a detailed technical data sheet for the VEZ Metric connector, including tables for dimensions, weights, and material specifications.
- General Technical details EMC System**: Offers a general overview of the EMC System's features and applications.
- PMA**: Shows a catalog of various PMA products, including connectors and cables.



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**ABB Switzerland Ltd.**

PMA Cable Protection  
Aathalstrasse 90  
CH-8610 Uster  
Phone +41 58 585 00 11  
pma-info@ch.abb.com

[www.pma.ch](http://www.pma.ch)

[abb.com](http://abb.com)

