

TECHNICAL DATA SHEET

# PMAFIX IP68 - NVNZ-M - Strain relief fitting

## Straight, metric thread

**PMA**



IP68, metal thread strain relief fitting for flexible non-metallic conduit



### Applications:

- In railway vehicle and heavy machine construction
- For separation of damp and dry areas

### Features & Benefits:

- Very high impact resistance
- With integrated strain relief for optimal ingress protection at the cable (up to IP68 / 5 bar)
- High thread and system connection strength
- Vibration-resistant connection to PMA conduits
- Easy assembly
- High conduit pull-out strength
- Very good chemical properties
- Fits both conduit profiles - fine (T) and coarse (G)

### Ingress protection:

- IP66, IP68 & IP69 (EN/IEC 60529)
- IP69, 100 bar with Water impact protection (WPS-ring)
- IP68 (up to 5 bar at the cable)

### Materials:

- Fitting body: high-grade, specially formulated polyamide 6
- Thread: nickel-plated brass
- Gland body: polyamide 6
- Sealing insert: CR/NBR

### Compatible with:

- PMAFLEX Pro Conduits
- PMAFLEX Multilayer Conduits
- PMAFLEX Conduits
- PMA Smart Line Conduits

### Conforms to:

- EN 45545-2 HL3 (R23 & R23)
- NFPA 130
- UL 94 (V0)

### Weathering resistance:

- Very good UV resistance and weathering characteristics

### Colour:

- Black

### Chemical properties:

- Please refer to [www.pma.ch](http://www.pma.ch) (Technical Information / Chemical Resistance)

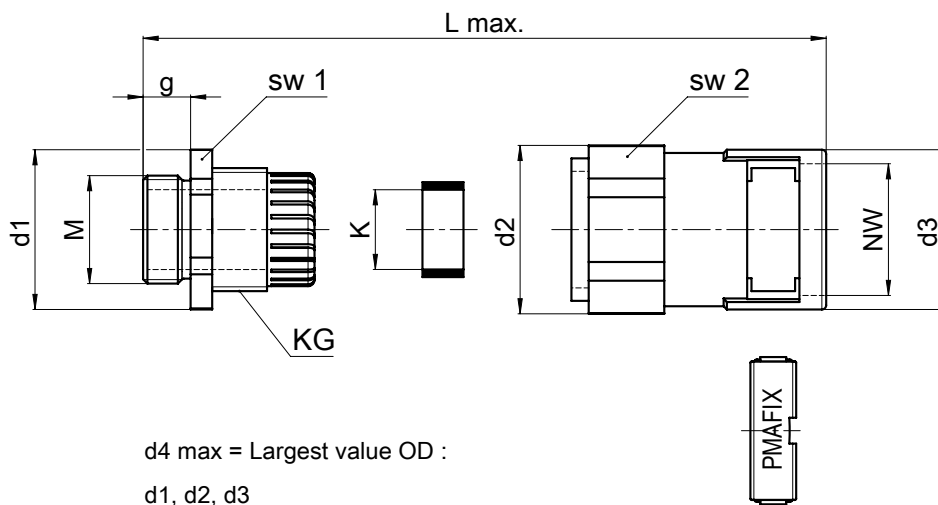
### Environmental properties:

- Free from halogens and cadmium
- RoHS and REACH compliant

## Product selection:

Part no.	Thread size	Conduit size	Cable clamping range in mm	Dimensions in mm (nom.)					Weight	Packing unit
				g	L	d4	SW1	SW2		
black	metric	NW	K						kg/100pcs	pcs/PU
NVNZ-M120S-10	M12x1.5	10	3.0 - 6.0	10.0	54.5	20.5	14	19	3.8	50
NVNZ-M120S-5	M12x1.5	10	3.0 - 6.0	5.0	49.5	20.5	14	19	3.6	50
NVNZ-M160S-10	M16x1.5	10	5.0 - 9.0	10.0	58.0	23.0	17	21	2.7	50
NVNZ-M160S-5	M16x1.5	10	5.0 - 9.0	5.0	53.0	23.0	17	21	2.5	50
NVNZ-M162S-10	M16x1.5	12	5.0 - 9.0	10.0	61.0	24.0	17	22	4.2	50
NVNZ-M162S-5	M16x1.5	12	5.0 - 9.0	5.0	56.0	24.0	17	22	4.1	50
NVNZ-M202S-10	M20x1.5	12	9.0 - 13.0	10.0	64.5	27.0	22	25	4.6	50
NVNZ-M202S-6	M20x1.5	12	9.0 - 13.0	6.0	60.5	27.0	22	25	4.3	50
NVNZ-M207S-10	M20x1.5	17	9.0 - 13.0	10.0	72.0	30.0	22	27	4.8	50
NVNZ-M207S-6	M20x1.5	17	9.0 - 13.0	6.0	68.0	30.0	22	27	4.6	50
NVNZ-M257S-11	M25x1.5	17	11.0 - 16.0	11.0	74.0	33.0	27	30	6.4	50
NVNZ-M257S-7	M25x1.5	17	11.0 - 16.0	7.0	70.0	33.0	27	30	6.0	50
NVNZ-M253S-11	M25x1.5	23	11.0 - 16.0	11.0	78.5	37.0	27	34	7.4	30
NVNZ-M253S-7	M25x1.5	23	11.0 - 16.0	7.0	74.5	37.0	27	34	7.0	30
NVNZ-M323S-13	M32x1.5	23	14.0 - 21.0	13.0	84.0	42.0	34	38	10.3	30
NVNZ-M323S-8	M32x1.5	23	14.0 - 21.0	8.0	79.0	42.0	34	38	9.6	30
NVNZ-M329S-13	M32x1.5	29	14.0 - 21.0	13.0	80.5	45.0	34	41	10.9	20
NVNZ-M329S-8	M32x1.5	29	14.0 - 21.0	8.0	75.5	45.0	34	41	10.4	20
NVNZ-M409S-13	M40x1.5	29	19.0 - 27.0	13.0	86.0	51.0	43	46	13.4	20
NVNZ-M409S-8	M40x1.5	29	19.0 - 27.0	8.0	81.0	51.0	43	46	12.8	20
NVNZ-M406S-13	M40x1.5	36	19.0 - 27.0	13.0	99.0	55.0	43	50	18.5	20
NVNZ-M406S-8	M40x1.5	36	19.0 - 27.0	8.0	94.0	55.0	43	50	17.8	20
NVNZ-M506S-14	M50x1.5	36	24.0 - 35.0	14.0	106.0	65.0	55	60	32.8	20
NVNZ-M506S-9	M50x1.5	36	24.0 - 35.0	9.0	101.0	65.0	55	60	32.5	20
NVNZ-M508S-14	M50x1.5	48	24.0 - 35.0	14.0	104.5	66.0	55	60	32.7	10
NVNZ-M508S-9	M50x1.5	48	24.0 - 35.0	9.0	99.5	66.0	55	60	31.0	10
NVNZ-M638S-14	M63x1.5	48	32.0 - 42.0	14.0	110.0	75.0	65	70	41.0	10
NVNZ-M638S-10	M63x1.5	48	32.0 - 42.0	10.0	106.0	75.0	65	70	38.4	10

Our customer service dept. or local distribution partner will be pleased to help you concerning product availability and lead time



Mechanical Properties:	Value:	Test parameters:	Test method:
Tensile modulus	1'200 ... 3'700 N/mm <sup>2</sup>		ISO 527
Tensile strength	45 ... 65 N/mm <sup>2</sup>		ISO 527
Notched bar impact test	4 ... 20 kJ/m <sup>2</sup>		ISO 180/1C
Vibration and shock standard	Cat. 2		IEC 61373, IEC 60068-2-27 / -64

Thermal properties:	Value:	Test parameters:	Test method:
Continuous application temperature	- 50 ... + 105 °C		PMA DO 9.21-4510
Upper application temperature	+ 120°C	(20'000 h)	PMA DO 9.21-4360
Short-term	+ 160 °C	(168 h)	PMA DO 9.21-4360

Fire safety properties:	Value:	Test parameters:	Test method:
Fire performance	non flame-propagating		IEC EN 61386-1
Flame class	V0		UL 94
Fire hazard level	HL3		EN 45545-2 (R22)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 150 Ds max.		EN ISO 5659-2 (25 kW/m <sup>2</sup> )
Toxicity	< 0.75 CIT <sub>NLP</sub>		NF X 70-100-1/-2: (600°C)
Fire hazard level	HL3		EN 45545-2 (R23)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 300 Ds max.		EN ISO 5659-2 (25 kW/m <sup>2</sup> )
Toxicity	< 1.5 CIT <sub>NLP</sub>		NF X 70-100-1/-2: (600°C)
Fire performance NFPA 130:			NFPA 130
- Flammability	compliant		ASTM E 162
- Smoke density	compliant		ASTM E 662
Heat and visible smoke	26.00 MJ/kg		ASTM E 1354
Smoke emission toxicity	compliant		Bombardier SMP 800-C
Smoke emission toxicity	compliant		Boeing BSS 7239

Note: Fire safety properties only applicable for PMA raw material

#### Content of delivery:

- Fitting with conduit locking clip (OVN2)
- Conduit gasket (NVN3)
- O-ring (OR)
- Jacob double thread element
- Jacob sealing insert
- Jacob insert with additional O-ring starting from thread size PG36

#### Assembly instructions:

- Please consider the appropriate assembly instructions on [www.pma.ch](http://www.pma.ch)

#### Sealing recommendation

If several conductors are used with the connector **multiple sealing inserts** should be considered

If several cables or conductors are used, or if the cables are below the minimum recommended clamping diameter for the clamping insert, increased deformation of the insert can occur leading to reduced sealing performance. In order to achieve a sealing level corresponding to IP68 PMA generally recommends additional sealing of the clamping thread (KG) using a commonly available thread sealing compound

Please consider our recommendation for adhesives and sealing agents

Temperature range sealing insert Jacob: - 20 ... + 100 °C

ABB Switzerland Ltd,  
PMA Cable Protection  
Aathalstrasse 90  
8610 Uster, Switzerland  
Phone: +41 58 585 00 11  
[pma-info@ch.abb.com](mailto:pma-info@ch.abb.com)  
[www.pma.ch](http://www.pma.ch)

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