

Adapters, Metal AD.*

Marking

Adapters, Metal AD.*
ATEX certificate: CESI 15 ATEX 029X ATEX marking:  II 2 GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
IECEx certificate: IECEx CES 15.0006X CCC certificate: 2021312313000345

The *-marked letters of the type code are placeholders for versions of the device.

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Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.

Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location.

The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable (see datasheet) are an integral part of this document. You can find this information under www.pepperl-fuchs.com.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com/device-information.

Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

The adapters of the AD.* series are made of metal.

The device can be used indoors.

The device can be used outdoors.

The device can be used in Zone 1.

The device can be used in Zone 21.

The device can be used in Zone 2.

The device can be used in Zone 22.

The device can be used with intrinsically safe circuits.

Only use the device in fixed installations.

The metal adapters type AD.* are suitable to adjust different thread types and sizes for connections to enclosures certified according to type of protection Ex d, Ex e or Ex tb.

Improper Use

Protection of personnel and the plant is not ensured if the device is not used according to its intended use.

Mounting and Installation

Observe the installation instructions according to IEC/EN 60079-14.

If you intend to install the device or enclosure in areas that may be exposed to aggressive substances, ensure that the stated surface materials are compatible with these substances. If required, contact Pepperl+Fuchs for further information.

Observe the instruction manuals for the associated components.

Refer to the corresponding technical data of the installed components for the actual type of protection or any possible restrictions.

Ensure that the degree of protection is maintained by the entire installation.

Ensure that the surface of the enclosure is smooth enough to achieve the required degree of protection.

Ensure that the enclosure entries are perpendicular, circular and free of burrs.

Tighten all screw threads with the specified torque.

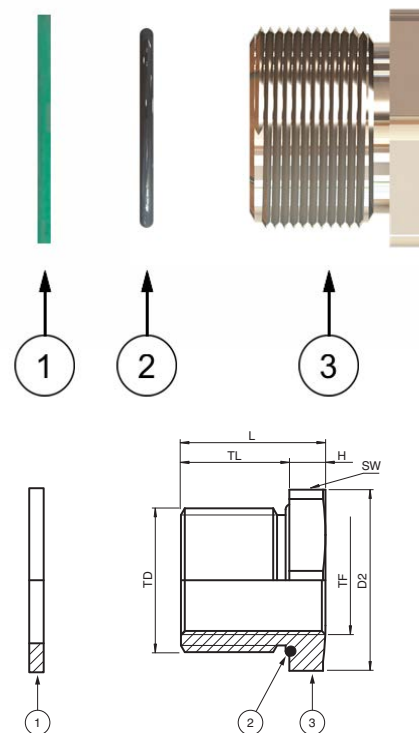
Installation Sequence

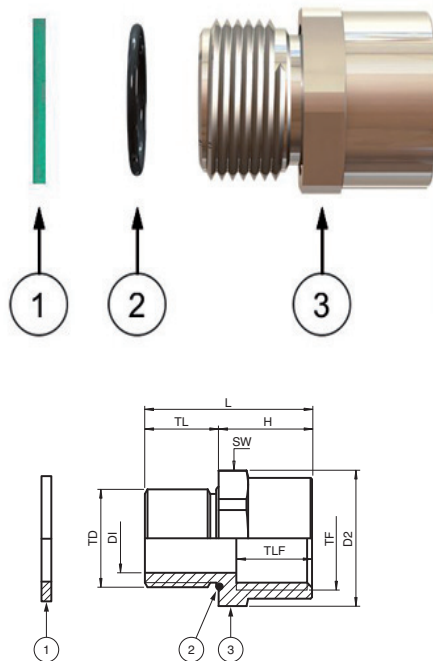
Install the adapter (3) in the entry of the enclosure.

Use washer gasket (1) and O-Ring (2) when appropriate.

Screw the second installation component into the adapter (3).

Dimensions and Assembly





Legend	
1	Washer gasket (accessory, only with metric treads)
2	O-ring (only with metric treads)
3	Adapter
DI	Diameter thru-hole
D2	Width across corners
H	Length outside enclosure
SW*	Width across flats
TD	Thread size
TF	Thread size female
TL	Thread length
TLF	Thread length female
L	Total length

Requirements in Relation to Flameproof Enclosure

Requirements in Relation to Tapered Threads

Ensure that the enclosure wall is thick enough to engage at least 5 full thread turns.

To ensure the degree of protection use a thread sealant. Apply the thread sealant to at least 2 full thread turns before installing the stuffing gland in the cable gland.

Ensure electrical conductivity.

Requirements in Relation to Metric Threads

Ensure that the enclosure wall is thick enough to engage at least 5 full thread turns.

Provide the tapped hole with an O-ring on the thread outside of the enclosure.

Requirements in Relation to Increased Safety

Requirements in Relation to Non-Threaded Enclosures

The minimum wall thickness of the enclosure has to be 1.5 mm.

If the enclosure has no threads, use locknuts for tightening.

Use washer gaskets between the screw-in parts and the enclosure for sealing.

Adhere to the required hole diameters.

Requirements in Relation to Tapered Threads

The minimum wall thickness of the enclosure has to be 1.5 mm.

When mounting on the enclosure, at least 3 thread turns has to be mechanically connected to the enclosure. If this is not possible, use a locknut.

To ensure the degree of protection use a thread sealant. Apply the thread sealant to at least 2 full thread turns before installing the stuffing gland in the cable gland.

Ensure electrical conductivity.

Tighten the locknut inside and the washer gasket on the thread outside of the enclosure.

If necessary, mount an O-ring between the washer gasket and the screw head.

Requirements in Relation to Metric Threads

The minimum wall thickness of the enclosure has to be 1.5 mm.

When mounting on the enclosure, at least 3 thread turns has to be mechanically connected to the enclosure. If this is not possible, use a locknut.

Tighten the locknut inside and the washer gasket on the thread outside of the enclosure.

If necessary, mount an O-ring between the washer gasket and the screw head.

Operation, Maintenance, Repair

Do not use a damaged or polluted device.

Observe the installation instructions according to IEC/EN 60079-14.

Observe IEC/EN 60079-17 for maintenance and inspection.

Do not modify or manipulate the device.

Only use spare parts specified by the manufacturer.

Ensure that the device is de-energized before maintain or repair the device.

Dissimilar metals will corrode when placed against each other in an assembly.

When selecting the enclosure material, observe the possible effects of galvanic corrosion.

Delivery, Transport, Disposal

Check the packaging and contents for damage.

Check if you have received every item and if the items received are the ones you ordered.

The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.

Technical Data

General	
Types and variants	AD* - see type code table
Mechanical specifications	
Dimensions	see data table
Thread type	metric ISO pitch 1.5 mm or NPT ANSI ASME B1.20.1
Thread type female	metric ISO pitch 1.5 mm or NPT ANSI ASME B1.20.1
Degree of protection	IP66 / IP68
Mass	see data table
Material	
Adapter	brass nickel-plated or stainless steel AISI 316 (1.4401)
Finish	inherent color silver
O-Ring	chloroprene / neoprene or silicone
Washer gasket	aramid fibers bonded with NBR
Ambient conditions	
Ambient temperature	chloroprene O-ring: -40 ... 100 °C (-40 ... 212 °F) silicone O-ring: -60 ... 130 °C (-76 ... 266 °F) washer gasket: -40 ... 80 °C (-40 ... 176 °F) Service temperature might be limited by the use of O-rings or washer gaskets.
Conformity	
Degree of protection	EN 60529
CE marking	0102

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Type Code / Model Number

1		2		3		4		5		6		7
AD	.	***	.	***	.	**	.	*	.	**	.	K**
AD	.	M50	.	NPT2	.	BN	.	C	.	18	.	K01

Example: AD.M50.NPT2.BN.C.18.K01

Adapter, male thread size M50, female thread size NPT 2", body brass nickel-plated, chloropren O-ring for -40 °C ... 100 °C, installation thread length 18 mm, one piece

1	Series
AD	Adapter

2	Thread, male
M*	metric ISO pitch 1.5; sizes see dimensions data table
NPT*	NPT ANSI ASME B1.20.1; sizes see dimensions data table

3	Thread, female
M*	metric ISO pitch 1.5; sizes see dimensions data table
NPT*	NPT ANSI ASME B1.20.1; sizes see dimensions data table

4	Material
BN	brass nickel-plated
SS	stainless steel

5	Material seals / O-Ring
C	chloroprene / neoprene
S	silicone
X	no seal

6	Thread length for installation in enclosure
**	length in mm

7	Packaging unit
	units not packaged, for use in Pepperl+Fuchs Solution Engineering Centers
K**	units quantity per package

Variant-Specific Data

Dimensions Metric-Metric - Brass Nickel-plated, O-Ring Chloroprene

Type	Thread male		Thread female		Dimensions [mm]					Mass approx.		Nut torques [Nm]	Delivery quantity
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	Component	Packaging unit	SW1	
AD.M20.M16.BN.C.15.K01	M20	15	M16	19	4	19	-	27.5	25	39 g	51 g	6	1
AD.M20.M16.BN.C.15.K63	M20	15	M16	19	4	19	-	27.5	25	39 g	2.7 kg	6	63
AD.M25.M20.BN.C.15.K01	M25	15	M20	19	4	19	-	33	30	66 g	86 g	8.5	1
AD.M25.M20.BN.C.15.K35	M25	15	M20	19	4	19	-	33	30	66 g	2.54 kg	8.5	35
AD.M32.M20.BN.C.15.K01	M32	15	M20	19	4	19	-	39.5	36	83 g	108 g	9	1
AD.M32.M20.BN.C.15.K35	M32	15	M20	19	4	19	-	39.5	36	83 g	3.2 kg	9	35
AD.M32.M25.BN.C.15.K01	M32	15	M25	19	4	19	-	39.5	36	53 g	69 g	9	1
AD.M32.M25.BN.C.15.K35	M32	15	M25	19	4	19	-	39.5	36	53 g	2.04 kg	9	35
AD.M40.M32.BN.C.18.K01	M40	18	M32	22	4	22	-	50	45	91 g	118 g	9.5	1
AD.M40.M32.BN.C.18.K20	M40	18	M32	22	4	22	-	50	45	91 g	2 kg	9.5	20
AD.M50.M40.BN.C.18.K01	M50	18	M40	23	5	23	-	61	55	153 g	199 g	10	1
AD.M50.M40.BN.C.18.K12	M50	18	M40	23	5	23	-	61	55	153 g	2.02 kg	10	12
AD.M63.M50.BN.C.18.K01	M63	18	M50	23	5	23	-	77	70	199 g	259 g	10.5	1
AD.M63.M50.BN.C.18.K12	M63	18	M50	23	5	23	-	77	70	199 g	2.63 kg	10.5	12

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Dimensions NPT-Metric - Brass Nickel-plated

Type	Thread male		Thread female		Dimensions [mm]					Mass approx.		Nut torques [Nm]	Delivery quantity
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	Component	Packaging unit	SW1	
AD.NPT1/2.M20.BN.X.15.K01	NPT 1/2"	15	M20	15	19	34	14.5	27.5	25	55 g	65 g	8	1
AD.NPT1/2.M20.BN.X.15.K35	NPT 1/2"	15	M20	15	19	34	14.5	27.5	25	55 g	2.12 kg	8	35
AD.NPT3/4.M20.BN.X.15.K01	NPT 3/4"	15	M20	19	4	19	-	33	30	41 g	51 g	9	1
AD.NPT3/4.M20.BN.X.15.K35	NPT 3/4"	15	M20	19	4	19	-	33	30	41 g	1.58 kg	9	35
AD.NPT3/4.M25.BN.X.15.K01	NPT 3/4"	15	M25	15	19	34	19	33	30	49 g	59 g	9	1
AD.NPT3/4.M25.BN.X.15.K35	NPT 3/4"	15	M25	15	19	34	19	33	30	49 g	1.89 kg	9	35
AD.NPT3/4.M32.BN.X.15.K01	NPT 3/4"	15	M32	15	19	34	19	39.5	36	83 g	93 g	9	1
AD.NPT3/4.M32.BN.X.15.K35	NPT 3/4"	15	M32	15	19	34	19	39.5	36	83 g	3.2 kg	9	35
AD.NPT1.M32.BN.X.15.K01	NPT 1"	15	M32	15	19	34	26	39.5	36	77 g	87 g	11	1
AD.NPT1.M32.BN.X.15.K35	NPT 1"	15	M32	15	19	34	26	39.5	36	77 g	2.96 kg	11	35
AD.NPT1.M40.BN.X.15.K01	NPT 1"	15	M40	18	22	37	26	50	45	103 g	113 g	11	1
AD.NPT1.M40.BN.X.15.K35	NPT 1"	15	M40	18	22	37	26	50	45	103 g	3.97 kg	11	35
AD.NPT1-1/4.M40.BN.X.18.K01	NPT 1-1/4"	18	M40	18	22	40	35	50	45	110 g	120 g	13	1
AD.NPT1-1/4.M40.BN.X.18.K20	NPT 1-1/4"	18	M40	18	22	40	35	50	45	110 g	2.42 kg	13	20
AD.NPT1-1/2.M50.BN.X.18.K01	NPT 1-1/2"	18	M50	18	22	40	40	61	55	115 g	125 g	15	1
AD.NPT1-1/2.M50.BN.X.18.K20	NPT 1-1/2"	18	M50	18	22	40	40	61	55	115 g	2.53 kg	15	20
AD.NPT2.M75.BN.X.18.K01	NPT 2"	18	M75	18	22.5	40.5	51	88.5	80	120 g	130 g	18	1
AD.NPT2.M75.BN.X.18.K12	NPT 2"	18	M75	18	22.5	40.5	51	88.5	80	120 g	1.58 kg	18	12

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Dimensions Metric-NPT - Brass Nickel-plated, O-Ring Chloroprene

Type	Thread male		Thread female		Dimensions [mm]					Mass approx.		Nut torques [Nm]	Delivery quantity
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	Component	Packaging unit	SW1	
AD.M20.NPT1/2.BN.C.15.K01	M20	15	NPT 1/2"	15	19	34	14	27.5	25	51 g	66 g	6	1
AD.M20.NPT1/2.BN.C.15.K35	M20	15	NPT 1/2"	15	19	34	14	27.5	25	51 g	1.96 kg	6	35
AD.M20.NPT3/4.BN.C.15.K01	M20	15	NPT 3/4"	15	19	34	14	33	30	64 g	83 g	6	1
AD.M20.NPT3/4.BN.C.15.K35	M20	15	NPT 3/4"	15	19	34	14	33	30	64 g	2.46 kg	6	35
AD.M25.NPT1/2.BN.C.15.K01	M25	15	NPT 1/2"	19	4	19	-	33	30	33 g	43 g	8.5	1
AD.M25.NPT1/2.BN.C.15.K35	M25	15	NPT 1/2"	19	4	19	-	33	30	33 g	1.27 kg	8.5	35
AD.M25.NPT3/4.BN.C.15.K01	M25	15	NPT 3/4"	15	19	34	19	33	30	49 g	64 g	8.5	1
AD.M25.NPT3/4.BN.C.15.K35	M25	15	NPT 3/4"	15	19	34	19	33	30	49 g	1.89 kg	8.5	35
AD.M25.NPT1.BN.C.15.K01	M25	15	NPT 1"	15	19	34	19	39.5	36	49 g	64 g	8.5	1
AD.M25.NPT1.BN.C.15.K35	M25	15	NPT 1"	15	19	34	19	39.5	36	49 g	1.89 kg	8.5	35
AD.M32.NPT3/4.BN.C.15.K01	M32	15	NPT 3/4"	19	4	19	-	39.5	36	53 g	69 g	9	1
AD.M32.NPT3/4.BN.C.15.K35	M32	15	NPT 3/4"	19	4	19	-	39.5	36	53 g	2.04 kg	9	35
AD.M32.NPT1.BN.C.15.K01	M32	15	NPT 1"	15	19	34	26	39.5	36	77 g	100 g	9	1
AD.M32.NPT1.BN.C.15.K35	M32	15	NPT 1"	15	19	34	26	39.5	36	77 g	2.96 kg	9	35
AD.M40.NPT1-1/4.BN.C.18.K01	M40	18	NPT 1-1/4"	18	22	40	34	50	45	103 g	134 g	9.5	1
AD.M40.NPT1-1/4.BN.C.18.K20	M40	18	NPT 1-1/4"	18	22	40	34	50	45	103 g	2.27 kg	9.5	20
AD.M40.NPT1-1/2.BN.C.18.K01	M40	18	NPT 1-1/2"	18	22	40	34	61	55	208 g	270 g	9.5	1
AD.M40.NPT1-1/2.BN.C.18.K20	M40	18	NPT 1-1/2"	18	22	40	34	61	55	208 g	4.58 kg	9.5	20
AD.M50.NPT1-1/2.BN.C.18.K01	M50	18	NPT 1-1/2"	18	22	40	40	61	55	220 g	286 g	10	1
AD.M50.NPT1-1/2.BN.C.18.K12	M50	18	NPT 1-1/2"	18	22	40	40	61	55	220 g	2.9 kg	10	12
AD.M50.NPT2.BN.C.18.K01	M50	18	NPT 2"	18	22.5	40.5	44	72	65	238 g	309 g	10	1
AD.M50.NPT2.BN.C.18.K12	M50	18	NPT 2"	18	22.5	40.5	44	72	65	238 g	3.14 kg	10	12
AD.M63.NPT2.BN.C.18.K01	M63	18	NPT 2"	18	22.5	40.5	51	75	68	362 g	471 kg	10.5	1
AD.M63.NPT2.BN.C.18.K12	M63	18	NPT 2"	18	22.5	40.5	51	75	68	362 g	4.78 kg	10.5	12

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Dimensions Metric-NPT - Stainless Steel, O-Ring Chloroprene

Type	Thread male		Thread female		Dimensions [mm]					Mass approx.		Nut torques [Nm]	Delivery quantity
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	Component	Packaging unit	SW1	
AD.M20.NPT1/2.SS.C.15.K01	M20	15	NPT 1/2"	15	19	34	14	27.5	25	48 g	62 g	6	1
AD.M20.NPT1/2.SS.C.15.K35	M20	15	NPT 1/2"	15	19	34	14	27.5	25	48 g	1.85 kg	6	35
AD.M20.NPT3/4.SS.C.15.K01	M20	15	NPT 3/4"	15	19	34	14	33	30	60 g	78 g	6	1
AD.M20.NPT3/4.SS.C.15.K35	M20	15	NPT 3/4"	15	19	34	14	33	30	60 g	2.31 kg	6	35
AD.M25.NPT1/2.SS.C.15.K01	M25	15	NPT 1/2"	19	4	19	-	33	30	33 g	43 g	8.5	1
AD.M25.NPT1/2.SS.C.15.K35	M25	15	NPT 1/2"	19	4	19	-	33	30	33 g	1.27 kg	8.5	35
AD.M25.NPT3/4.SS.C.15.K01	M25	15	NPT 3/4"	15	19	34	19	33	30	93 g	121 g	8.5	1
AD.M25.NPT3/4.SS.C.15.K35	M25	15	NPT 3/4"	15	19	34	19	33	30	93 g	3.58 kg	8.5	35
AD.M25.NPT1.SS.C.15.K01	M25	15	NPT 1"	15	19	34	19	39.5	36	62 g	81 g	8.5	1
AD.M25.NPT1.SS.C.15.K35	M25	15	NPT 1"	15	19	34	19	39.5	36	62 g	2.39 kg	8.5	35
AD.M32.NPT3/4.SS.C.15.K01	M32	15	NPT 3/4"	19	4	19	-	39.5	36	70 g	91 g	9	1
AD.M32.NPT3/4.SS.C.15.K35	M32	15	NPT 3/4"	19	4	19	-	39.5	36	70 g	2.7 kg	9	35
AD.M32.NPT1.SS.C.15.K01	M32	15	NPT 1"	15	19	34	26	39.5	36	52 g	68 g	9	1
AD.M32.NPT1.SS.C.15.K35	M32	15	NPT 1"	15	19	34	26	39.5	36	52 g	2 kg	9	35
AD.M40.NPT1-1/4.SS.C.18.K01	M40	18	NPT 1-1/4"	18	22	40	34	50	45	103 g	134 g	9.5	1
AD.M40.NPT1-1/4.SS.C.18.K20	M40	18	NPT 1-1/4"	18	22	40	34	50	45	103 g	2.27 kg	9.5	20
AD.M40.NPT1-1/2.SS.C.18.K01	M40	18	NPT 1-1/2"	18	22	40	34	61	55	208 g	270 g	9.5	1
AD.M40.NPT1-1/2.SS.C.18.K20	M40	18	NPT 1-1/2"	18	22	40	34	61	55	208 g	4.58 kg	9.5	20
AD.M50.NPT1-1/2.SS.C.18.K01	M50	18	NPT 1-1/2"	18	22	40	40	61	55	217 g	282 g	10	1
AD.M50.NPT1-1/2.SS.C.18.K12	M50	18	NPT 1-1/2"	18	22	40	40	61	55	217 g	2.86 kg	10	12
AD.M50.NPT2.SS.C.18.K01	M50	18	NPT 2"	18	22.5	40.5	44	72	65	240 g	312 g	10	1
AD.M50.NPT2.SS.C.18.K12	M50	18	NPT 2"	18	22.5	40.5	44	72	65	240 g	3.17 kg	10	12
AD.M63.NPT2.SS.C.18.K01	M63	18	NPT 2"	18	22.5	40.5	51	75	68	362 g	471 g	10.5	1
AD.M63.NPT2.SS.C.18.K12	M63	18	NPT 2"	18	22.5	40.5	51	75	68	362 g	4.78 kg	10.5	12