SECURITON Line-Type Heat Detection

PRODUCT CATALOGUE
SEC-ADW-535

MM-ADWCA4

SECURITON
SEC-ADW-535

Introduction

Where conventional fire detectors reach their physical limits, the SEC-ADW-535 line-type heat detector comes into play. The intelligent line-type heat detector works perfectly, even under the most difficult conditions. Whether the fully automatic monitoring of large areas, resisting corrosive gases, extreme humidity and high temperatures, or differentiating between false alarms and real danger – the list of requirements for a state of the art line-type heat detector is both long and detailed.

Design and function
The integrated SEC-ADW-535 line-type heat detector combines a proven functional principle with the latest developments in sensor and processor technology. A sensing tube filled with normal air is installed in the area to be monitored. A fully electronic pressure sensor permanently records the pressure in the sensing tube. This is monitored constantly in the processing electronics and compared with the alarm criteria. Diverse setting options are offered directly on the device via Easy Config or using the ADW Config tool for perfect adaptation to existing environmental conditions. The Dynamic Heat Watch (DHW) technology ensures that a brief temperature increase caused by the ambient conditions does not result in a false alarm.

Applications
Thanks to the extremely tough sensing tube, the SEC-ADW-535 can be deployed in many applications where conventional fire detectors do not work. With its long service life and maintenance-free design,
the SEC-ADW-535 is also ideal in applications where detection properties must remain constant over the entire product service life.
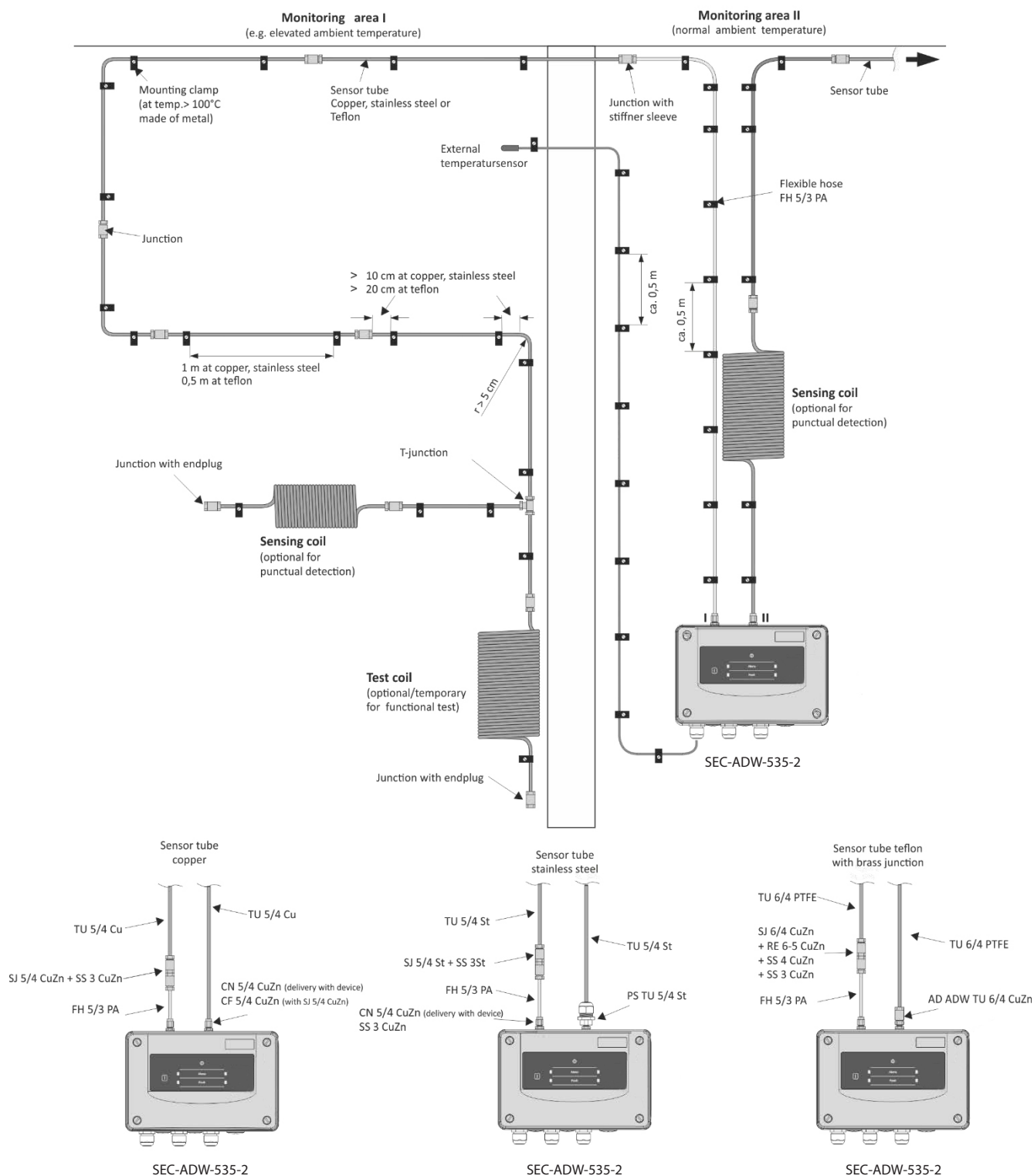
Typical applications:
- Tunnels: road tunnels, metro and railway tunnels, utility and cable tunnels
- Underground garages, industrial vehicles, silos
- Food industry, industrial kitchens, large commercial bakeries
- Alcohol processing, distilleries
- Chemical industry, refineries, oil tanks
- Waste incineration plants
- Outdoor applications: loading platforms, historical bridges, fuel warehouses, towers
- High-temperature applications such as: paint shops, steel plants, kilns, climate chambers, gas turbines, engine test benches
- And many other applications, e. g. underfloor monitoring in rolling stock, marine applications

Sensing tubes
Depending on the application, various sensing tubes are available (all of which have VdS approval):
- PTFE (Teflon): Standard material and for aggressive ambient conditions (e.g. chemical Industrie)
- Copper: standard applications
- Stainless steel: food industry and high temperature applications

Overview of Line type heat detector SEC-ADW-535

The illustrated components are examples and can be combined within the scope of the technical possibilities.
The technical documentation, installation instructions and regional standards must be observed.

Line-Type Heat Detectors

SEC-ADW-535 Units

Line Type Heat detector

SEC-ADW-535-1

SEC-ADW-535-2

SEC-ADW-535-1   one sensing tube

SEC-ADW-535-2   two sensing tube

The SEC-ADW-535 line-type heat detector combines a proven functional principle with the latest developments in sensor and processor technology.
A sensing tube filled with normal air is installed in the area to be monitored. A fully electronic pressure sensor permanently records the pressure in the sensing tube and compares it with the alarm criteria.
Commissioning and configuration is done either directly on the device or via the ADW Config software tool for a perfect adaptation to existing environmental conditions.
For planning, the ADW HeatCalc software allows an optimized design of any installation.

- Sensing tube length max.115m

Operating voltage:	9 to 30 VDC
Protection class:	IP65
Operating temperature:	-30°C to +70°C
Operating temperature sensing tube*:	please see page 11
Weight: 1 sensing tube	1,5 kg
2 sensing tubes	1,97 kg
Dimensions (HxWxD):	160.5 x 250.5 x 134 mm
Color:	light grey (RAL 280 70 05)
	charcoal (RAL 300 20 05)

Approvals

VdS-Approval:	G 214076
UL-Approval:	S7197
FM-Approval:	3056227
ActivFire Approval:	afp-3328

Note:

*: Temperature range depends on the sensing tube material used.

SEC-ADW-535-1HDx   One Sensing tube

SEC-ADW-535-2HDx   Two sensing tubes

SEC-ADW-535-1HDx

SEC-ADW-535-2HDx

The SEC-ADW-535 line-type heat detector combines a proven functional principle with the latest developments in sensor and processor technology.
A sensing tube filled with normal air is installed in the area to be monitored. A fully electronic pressure sensor permanently records the pressure in the sensing tube and compares it with the alarm criteria.
Commissioning and configuration is done either directly on the device or via the ADW Config software tool for a perfect adaptation to existing environmental conditions.
For planning the ADW HeatCalc software allows an optimized design of any installation.

The HDx versions of the control unit are for installation inside Ex zones 2 and 22 and very harsh ambient conditions.

Operating voltage:	9 to 30 VDC
Protection class:	IP66
Operating temperature:	-30°C to +70°C
Operating temperature sensing tube:	please see page 11
Weight: 1 sensing tube	3,05 kg
2 sensing tubes	3,42 kg
Dimensions (HxWxD):	160.5 x 250.5 x 134 mm
Color:	graphite black (RAL 9011) platinum grey (RAL 7036)

Approvals

VdS-Approval:	G 214076
ATEX-Approval:	II 3G Ex nA nC IIC T4 Gc II 3D Ex tc IIIC T135°C Dc
UL-Approval:	S7197
FM-Approval:	3056227
ActivFire Approval:	afp-3328

Note:
*: Temperature range depends on the sensing tube material used.

Line Type Heat detector ATEX Zone 1

SEC-ADW-535-1-ATEX

Line-type heat detector with one sensor for the use in explosive atmosphere of the zone 1. (Category 2G) according to directive 94/9/EG (ATEX 100a).
Approval according to EN 54-22, heat sensor response class A1I, A2I, BI ... GI

- Max. monitoring area = 800 m²
- Max. sensor tube length per connection channel=115 m (Copper and stainless steel sensor tube)
- Max. sensor tube length per connection channel=105 m (Teflon sensor tube)
- One stub line per sensor tube possible
- Service PC interface (Ethernet)
- Surface-mounted housing
- II G 2 Ex d e IIC T6

Operating voltage:	9 to 30 VDC
Protection class:	IP65
Operating temperature:	-20°C to +40°C
Operating temperature sensing tube*:	- 40 °C to +800 °C
Weight:	27 kg
Dimensions (HxWxD):	679 x 325 x 190 mm
Color:	umbra grey (RAL 7022) pebble grey (RAL 7032)

Approvals

ATEX-Approval: Case:	PTB 99 ATEX 1057
Detonation guard:	IBExU 06 ATEX 2003 X

External Temperature Sensor

SEC-ART-535-10

For the temperature compensation the external temperature sensor SEC-ART-535 is to be used and placed in the monitored area. For temperature ranges and for EX applications a special version is to be used. (SEC-ART-535-30 Ex 400°C)
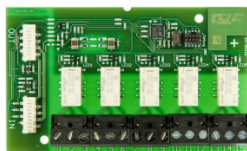- Cable length: 10m

Operating temperature:	-50°C to +200°C

Modules for Line type heat detectors

The SEC-ADW-535 has four slots for expansion modules.

Relay I/F module for Special Fire Detectors

SEC-RIM-36

The SEC-RIM-36 brings five (5) additional relay outputs to your SEC-ADW-535 Detector. Expansion limit is two (2) SEC-RIM-36 / 10 relays. Each relay can be assigned to any ADW event by programming with the ADW Config software. The module comes with mounting brackets, screws and ribbon cable.

Weight:	85 g
Dimensions (HxWxD):	95 x 58 x 17 mm

Serial I/F module networking of Special Fire Detectors

SEC-SIM-35

The SEC-SIM-35 module is coated and is for the RS 485 networking of up to 250 SEC-ADW-535 Detectors. Using the "ADW Config" configuration software, all ADWs in the network can be visualized and configured from a PC. The module comes with mounting brackets, screws and ribbon cables.

Weight:	56 g
Dimensions (HxWxD):	95 x 58 x 17 mm

Serial master Module for networking of Special Fire Detectors

SEC-SMM-535

This interface connects the RS485 (over SEC-SIM-35) networked ADWs to a USB port of a PC. It is powered by the USB port.

Operating Voltage:	USB powered / 5 VDC
Operating temperature:	-30°C to +60°C
Weight:	165 g
Dimensions (HxWxD):	82 x 89 x 55 mm

Accessories

	Copper tube	Stainless steel tube	Teflon tube	Flexible polyamide hose
Application areas	Standard environments	High temperature environments	Standard and aggressive environments	For the flexible connection between ADW and copper/stainless steel tube
Properties	Temperature resistance ++ Chemical resistance – – Corrosion resistance +	Temperature resistance +++ Chemical resistance – Corrosion resistance ++	Temperature resistance ++ Chemical resistance +++ Corrosion resistance +++	Temperature resistance + Chemical resistance ++ Corrosion resistance ++
Application areas	standard industrial applications Car park halls Loading platforms Road tunnels railway tunnels underground railway tunnels	Fertiliser industry Rubber industry Plastics processing industry Food processing industry Textile industry cellulose industry	Standard industrial applications Bioengineering Chemical industry Semiconductor industry Laboratory Engineering Medical engineering Pharmaceutical industry	As supply line to the detection area or for the thermal decoupling
Diameter outside (mm)	5	5	6	5
Diameter inside (mm)	4	4	4	3
Tube length (depending on application)	10 to 115 m	10 to 115 m	10 to 105 m	0 to 20 m
Max. distance between pipe clamps	0,8 m to 1,2 m	0,8 m to 1,2 m	0,5 m	0,5 m
Distance between pipe clamps and Screw-junction piece	≥ 10 cm each side	≥ 10 cm each side	≥ 20 cm each side	≥ 20 cm each side
Operating temperature	-40°C to +300°C	-40°C to +300°C (higher temperatures on demand)	-40°C to + 200°C (PVDF -40 to +150°C)	-40°C to +100°C
Applicable in heat classes	A1-G	A1-G	A1, A2 and C	A1-G
Material	Cu-DHP R250	Stainless steel (1.4571)	Polytetrafluorethylen (PTFE)	Polyamide PA 12
Screw junction piece	Brass	Stainless steel (1.4571)	PVDF or Brass	-
End plug	Brass	Stainless steel (1.4571)	PVDF or Brass	-
Stiffener sleeve	-	-	Brass when used with Brass-junctions	Brass or Stainless steel (1.4571)
Test coil	Cu-DHP R250	Stainless steel (1.4571)	Polytetrafluorethylen (PTFE)	-

	Copper tube	Stainless steel tube	Teflon tube	Flexible polyamide hose
Pipe clamp	Polyamide (max. 85°C) Brass	Polyamide (max. 85°C) Stainless steel (1.4571)	Polyamide (max. 85°C) Brass or Stainless steel (1.4571)	Polyamide (max. 85°C)
Sensing tube connection ADW (standard delivery brass)	Brass	Brass (First part of tube Polyamide)	Brass; special adapter available AD TU 6/4	Brass
Necessary accessories				
Connection set	-	-	1	-
Screw-junction piece	– Same number as pipes – Per test coil +2 (If test coil connected at ADW +1)	– Same number as pipes – Per test coil +2 (If test coil connected at ADW +1)	- Same number as hoses -1	-1 per hose (If test coil connected at ADW +1)
End plug	1 per sensing tube	1 per sensing tube	1 per sensing tube	-
Stiffener sleeve	-	-	2 per tube part (only for brass junctions)	2 per hose part
Pipe clamps	Ca. 1 clamp per m depending on clamp distance (0.8-1.2m)	1,25 clamps per m depending on clamp distance (0.8-1.2m)	2 clamps per m	Ca. 1 clamp per m depending on clamp distance (0.8-1.2m)

Copper

Standard sensing tube for applications with normal operating temperatures.
-40°C– +300°C ➔ (When used at 85°C and above, use metallic pipe clamps).

Copper 5/4mm	
Tubes	
Sensing tube cooper delivery unit: 3m	SEC-TU-5-4-Cu-3m
Sensing tube cooper delivery unit:50m	SEC-TU-5-4-Cu-50
Fittings brass	
Screw Junction straight for SEC-TU-5-4-Cu delivery unit: 10 pcs	SEC-SJ-5-4-CuZn
End plug for Junction straight for SEC-SJ-5-4-CuZn delivery unit: 5 pcs	SEC-EP-5-4-CuZn
T-Junction for SEC-TU-5-4-Cu	SEC-TJ-5-4-CuZn
Coils	
Sensing coil of SEC-TU-5-4-Cu length 5m	SEC-SC-5-4-Cu-5
Test coil of SEC-TU-5-4-Cu length 10m	SEC-TC-5-4-Cu-10

Stainless steel

Sensor tube for applications in corrosive environments and in the food industry for hygienic reasons.
-40 – +300°C (when used at 85°C and above, use metal pipe clamps).

Stainless steel 5/4mm	
Tubes	
Sensing tube stainless steel delivery unit: 3m	SEC-TU-5-4-ST-3M
Stainless Steel Sensing tube roll delivery unit: 60m	SEC-TU-5-4-ST60M
Fittings	
Screw Junction straight for SEC-TU-5-4-ST delivery unit: 5 pcs	SEC-SJ-5-4-ST
End plug for Junction straight for SEC-SJ-5-4-CuZn delivery unit: 5 pcs	SEC-EP-5-4-ST
T-Junction for SEC-TU-5-4-ST	SEC-TJ-5-4-ST
Protection screw for the direct connection of sensing tube SEC-TU-5-4-ST to the SEC-ADW-535 evaluation unit.	SEC-PS-TU-5-4-ST
Coils	
Sensing coil of SEC-TU-5-4-ST length 5m	SEC-SC-5-4-ST-5
Test coil of SEC-TU-5-4-ST length 10m	SEC-TC-5-4-ST-10-SET

Teflon

Sensor tube for standard applications and for very corrosive and aggressive environments.
-40 – +200°C (when used at more than 85°C, metal pipe clamps and brass screw-junction pieces must be used; if more than +120°C the screw-junction pieces must be outside of the monitored area).
When using **Teflon sensing tubes**, only classes **A1I** to **BI** are possible according to EN 54-22.

Teflon 6/4mm	
Tubes	
Sensing tube teflon 6/4mm delivery unit: 100m	SEC-TU-6-4-PTFE-100
Sensing tube teflon 6/4mm delivery unit: 50m	SEC-TU-6-4-PTFE-50
Fittings	
Adapter SEC-ADW-TU-6-4-PTFE	SEC-AD-TU-6-4-CuZn
Screw junction straight PVDF for SEC-TU-6-4-PTFE	SEC-SJ-6-4-PVDF
Endplug for SEC-TU-6-4-PTFE, SEC-EP-6-4-PVDF	SEC-EP-6-4-PVDF
T-Junction for SEC-TU-6-4-PTFE, SEC-TJ-6-4-PVDF	SEC-TJ-6-4-PVDF
Mounting sets	
Adapter-Set PA-Teflon (incl SEC-SJ-6-4-CuZn, SEC-SS4-CuZn, SEC-SS3-CuZn)	SEC-AD-5-6-CuZn-Set
T-Junction-Set Teflontube (incl. SEC-TJ-6-4-CuZn, SEC-SS4-CuZn)	SEC-TJ-6-4-CuZn-Set
Screw junction-Set Teflontube (incl SEC-SJ-6-4-CuZn, SEC-SS4-CuZn)	SEC-SJ-6-4-CuZn-Set
End plug-Set Teflontube (incl SEC-SJ-6-4-CuZn, SEC-EP-6-4-CuZn, SEC-SS4-CuZn)	SEC-TS-6-4-CuZn-Set
Coils	
Sensing-Coil 6-4 PTFE with mounting clip Screw junction to connect the coil to the Teflon tube must be ordered separately	SEC-SC-6-4-PTFE-5M-SET
Stiffener	
Stiffener sleeve for Teflon sensing tube delivery unit: 10 pcs	SEC-SS-4-CuZn

Polyamide

Supply line to copper, stainless steel or Teflon sensor tubes:
- 40°C - +100°C for applications above 100°C the transition from the flexible hose to the sensor tube (screw connection) must be outside the monitoring area.

Polyamide 5/3mm	
Tubes	
Flexible Hose Polyamid 5/3mm (Price per 25m) delivery unit: 25m	SEC-FH-5-3-PA-25
Stiffner	
Stiffener sleeve brass for SEC-FH-5-3-PA delivery unit: 10 pcs	SEC-SS-3-CuZn
Stiffener sleeve for SEC-FH-5-3-PA delivery unit: 10 pcs	SEC-SS-3-ST

Installation material

Installation	
Pipe clamp	
Pipe clamp black delivery unit: 100 pcs	SEC-PC-5-6-PA
Pipe Clamp brass delivery unit: 10 Pipe clamps and 10 brass stiffener	SEC-PC-5-6-StG
Pipe clamp stainless steel delivery unit: 10 Pipe clamps	SEC-PC-5-6-ST
Stiffener	
Stiffener sleeve for Pipe Clamp SEC-PC-5-6-STG	SEC-SS-8-ST

Accessories for Ex-Zones

SensTube Teflon 6/4mm Ex

SEC-TU-6-4-PTFE-EX

Tube to create the sensor part for Ex applications.
Without connection and termination parts.
- (price per 100 m)
- Explosion group: IIA

Dimensions (length):	100 m
Material:	teflon

Grounding Clamp

SEC-GC-5-6-EX

Grounding Clamp with ATEX certification.
To ground the sensing tube in Ex-zone applications.

Material:	copper tin-plated

External Temperature Sensor for EX-zones

SEC-ART-535-30-EX-1

SEC-ART-535-30-EX-21

The SEC-ART 535 external temperature sensor is to be used in the following cases:
- Always (for all response grades), as soon as the application temperature in the monitored area deviates more than 20°C from the temperature of the evaluation unit.
- Sensor diameter 6mm

Protection class:	IP65
Operating temperature:	-50°C to +400°C
Dimensions (length):	30 m
Material:	stainless steel

Approvals

Ex-Approval:
SEC-ART-535-30-EX-1:   Zone 1, 2 (II 2G Ex em T6)
SEC-ART-535-30-EX-21:
                Zone 21, 22 (II 2D Ex mbD A21 IP65 80°C X

Spare Parts

Spare parts and repair		
Boards for repair exchange only		
	Main Board for SEC-ADW-535-1 and -2	SEC-LMB-35
	Extension Board for SEC-ADW-535-2	SEC-LEB-35
	Supervising Unit for SEC-ADW-535	SEC-LSU-35
Various spare parts		
	SD-card Industrial 2GB	SEC-SD-Industrial
	Lithium Battery (high temperature range)	SEC-BR2032
	M20 Cable Screw Union delivery unit: 10 pcs	SEC-M20-VE10
	M25 Cable Screw Union delivery unit: 10 pcs	SEC-M25-VE10
	Connection nut for ADW	SEC-CN-5-4-CuZn
	Compression ferrule	SEC-CF-5-4-CuZn

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