Linear Heat Detection (LHD) Sensor Cables

SEC 15 / SEC 20

Copper-Tube Sensing Linear Heat Detection Cable

EN 54-22 pneumatic seamless copper-tube sensing element for resettable linear heat detecti



EN 54-22 Resettable | **5/3 mm Seamless Cu Tube** | **SEC 15 Bare / SEC 20 Sheathed**

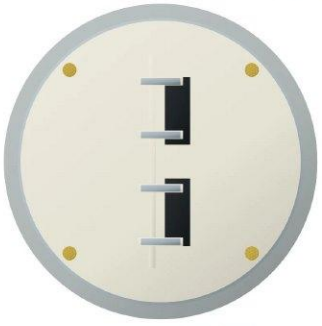
Application

SEC 15 and SEC 20 are EN 54-22 resettable pneumatic linear heat detection sensing tubes consisting of a precision-drawn seamless copper capillary tube (5.0 mm OD × 3.0 mm ID, bare Cu on SEC 15 or halogen-free polyethylene/PA over-sheathed on SEC 20). Any rapid

Typical uses: Road, highway & rail tunnels, Underground & multi-storey car parks, ATEX petrochemical & paint booths, Aircraft hangars & turbine halls, Cold stores & food washdown zones

Construction





Cross-section, not to scale

1	Seamless copper capillary tube (SEC 15)	EN 12449
2	Enclosed pneumatic air column	EN 54-22
3	Metallic screen	EN 12449
4	Halogen-free protective sheath (SEC 20)	EN 54-22

Technical data

Typical values

Electrical energy in sensing tube	0 V / 0 mA (100 % passive pneumatic tube; intrinsically safe in ATEX Zones 0, 1, 2, 20, 21, 22)
EN 54-22 response classes	Class A1I, A2I, BI, CI (programmable via evaluation unit)
Operating temperature (SEC 20 sheathed)	-40 °C to +80 °C continuous
Minimum bending radius	50 mm (hand-formed or bending-roller radius)
Corrosion & chemical resistance	SEC 20 halogen-free sheath resists tunnel exhaust condensates, road salt, acids and alkalis
Standards	EN 54-22 (Resettable line-type heat detectors) & VdS approval

EMI & lightning immunity	100 % immune to electromagnetic fields, HV catenary induction and radiation
Operating temperature (SEC 15 bare Cu)	-40 °C to +200 °C continuous
Copper tube dimensions	5.0 mm OD × 3.0 mm ID × 1.0 mm wall (SEC 15) · 6.2 mm OD with sheath (SEC 20)
Max. sensing tube loop length	Up to 120–150 m per pneumatic evaluation chamber
Resettable fire survival	Automatically resets after thermal transients below copper annealing/melting threshold

Sizes

12 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Designation	Type & Coil Length	OD / ID mm	Outer Ø ≈ mm	Copper kg/km	Total weight ≈ kg/km	Min. bend R fixed mm
Securiton SEC 15 / SEC 20 standard series 12 sizes						
☐ SEC 15 Bare Cu Tube (50 m Coil)	SEC 15 Bare Cu · 50 m	5.0 / 3.0 mm	5.0	112	112	50
☐ SEC 15 Bare Cu Tube (100 m Coil)	SEC 15 Bare Cu · 100 m	5.0 / 3.0 mm	5.0	112	112	50
☐ SEC 20-RD Red Sheathed (50 m Coil)	SEC 20 Red PE/HF · 50 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 20-RD Red Sheathed (100 m Coil)	SEC 20 Red PE/HF · 100 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 20-BK Black UV Sheathed (50 m)	SEC 20 Black UV · 50 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 20-BK Black UV Sheathed (100 m)	SEC 20 Black UV · 100 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 20-GY Grey Sheathed (50 m Coil)	SEC 20 Grey HF · 50 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 20-GY Grey Sheathed (100 m Coil)	SEC 20 Grey HF · 100 m	6.2 / 3.0 mm	6.2	112	128	62
☐ SEC 15-SS Stainless Tube 5/3 (50 m)	AISI 316Ti Tube · 50 m	5.0 / 3.0 mm	5.0	0	100	50
☐ SEC 15-SS Stainless Tube 5/3 (100 m)	AISI 316Ti Tube · 100 m	5.0 / 3.0 mm	5.0	0	100	50
☐ SEC 20-SS Sheathed Stainless (50 m)	Sheathed AISI 316Ti · 50 m	6.2 / 3.0 mm	6.2	0	116	62
☐ SEC 20-SS Sheathed Stainless (100 m)	Sheathed AISI 316Ti · 100 m	6.2 / 3.0 mm	6.2	0	116	62

– Nominal outer diameters and weights are subject to manufacturing tolerances per EN 54-22 / VdS.

Electrical data

12 sizes

Type & Coil Length	Max. DC R @ 20 °C Ω/km	Current in air A	Current in duct/tray A
SEC 15 Bare Cu · 50 m	1.450	0	0
SEC 15 Bare Cu · 100 m	1.450	0	0
SEC 20 Red PE/HF · 50 m	1.450	0	0
SEC 20 Red PE/HF · 100 m	1.450	0	0
SEC 20 Black UV · 50 m	1.450	0	0
SEC 20 Black UV · 100 m	1.450	0	0
SEC 20 Grey HF · 50 m	1.450	0	0
SEC 20 Grey HF · 100 m	1.450	0	0
AISI 316Ti Tube · 50 m	58.000	0	0
AISI 316Ti Tube · 100 m	58.000	0	0

Type & Coil Length	Max. DC R @ 20 °C Ω/km	Current in air A	Current in duct/tray A
Sheathed AISI 316Ti · 50 m	58.000	0	0
Sheathed AISI 316Ti · 100 m	58.000	0	0

– Current ratings apply at +30 °C ambient in free air and +25 °C in enclosed tray/conduit.

Standards and approvals

- ✓ EN 54-22 Class A1I / A2I / BI / CI
- ✓ VdS System Compatibility
- ✓ EN 12449 Seamless Cu-DHP
- ✓ ATEX Passive Non-Electrical Sensor

Certifications

Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/sec-15-sec-20-copper-tube-sensing-element-linear-heat-detection-cable

Typical values for this cable type, based on EN 54-22 / VdS. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.