CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 20ATEX0093 X** Issue Number: **0**

(4) Product: **Self Regulating Trace Heating System Type 27-1S**-****/******

(5) Manufacturer: **BARTEC GmbH**

(6) Address: **Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test reports numbered NL/DEK/ExTR18.0053/00, NL/DEK/ExTR20.0057/00 and NL/DEK/ExTR20.0058/00.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018	**EN 60079-1 : 2014**	**EN 60079-7 : 2015 + A1 : 2018**
EN 60079-11 : 2012	**EN 60079-30-1 : 2017**	**EN 60079-18 : 2015 + A1 : 2017**
EN 60079-31 : 2014		

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 2 G Ex db eb mb [ib] 60079-30-1 IIC T6…T3 Gb
II 2 D Ex tb [ib] 60079-30-1 IIIC T80 °C…T170 °C Db

For details see Annex 1 to NL/DEK/ExTR20.0058/00

Date of certification: 2 August 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-product-safety.com Registered Arnhem 09085396

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0093 X** Issue No. **0**

(15) **Description**

The Self Regulating Trace Heating System Type 27-1S**-****/**** is a trace heating system used to raise or maintain the temperature of a workpiece where it is externally applied.

The system consists of:

- Self Regulating Trace Heating Cable Series PSB Type 07-5853-**** or MSB Type 07-5854-**** in Ex 60079-30-1, certified per DEKRA 17ATEX0007U,
- PLEXO TCS connection, splice and end termination systems in Ex eb 60079-30-1 or tb 60079-30-1, certified BVS 13ATEXE040 X,
- Temperature Controller ESTM in Ex eb mb [ib] 60079-30-1or tb [ib] 60079-30-1, certified per DEKRA18ATEX0020 X,
- non-metallic or metallic Installation Enclosures Types 27-54**-****/****, certified per DEKRA21ATEX0118 X,
- Cold applied cable connection and end termination system, assessed per NL/DEK/ExTR 18.0053.

The Installation Enclosures are available in a variety of options:

- Power Boxes PBS or PBM that include Ex eb terminals only.
- Electronic thermostat PBTC that includes an electronic module in types of protection Ex eb, mb, [ib] and 60079-30-1 and a transparent lens mounted in the cover in type of protection Ex eb or tb.
- Mechanical thermostat PBTW that includes a capillary thermostat with switching unit types of protection Ex db and eb, terminals in type of protection Ex eb and a gland for the capillary tube in type of protection Ex eb or tb.
- End of Line Lamp ELL that includes an illuminated indicator module in types of protection Ex db and eb and a coloured transparent lens mounted in the cover or optionally the top side of the enclosure in type of protection Ex eb or tb.
- End of Line Seal ELS that includes a box pedestal PS-120-2, a PS-E GRP environmental protection cap and an End Seal ES1 with RTV sealant in type of protection Ex 60079-30-1.

For details of scope, nomenclature, marking, product ratings, electrical data and thermal data see Annex 1 to NL/DEK/ExTR20.0058/00

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Numbers**

No.'s NL/DEK/ExTR18.0053/00 and NL/DEK/ExTR20.0058/00.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0093 X** Issue No. **0**

(17) **Specific Conditions of Use**

General
- All power and data line cable entries to the trace heater boxes shall be installed with Ex eb or Ex tb cable glands or blanking elements providing a minimum ingress protection of IP66.
- Supply cables and power cable entry glands shall be selected per manufacturer's installation instructions for appropriate conductor size and temperature range.
- When used in TT and TN systems a residual current device according to EN 60079-30-1, clause 4.4 point c) 1) shall be installed.
- When used in IT systems an insulation monitoring device according to EN 60079-30-1, clause 4.4 point c) 2) shall be used.
- For the electrical data that are not marked, see Annex 1.

Coated aluminium Power boxes, type 27-54P2-**/**** and Cable entries PS-120* type 27-59-G2-***

The enclosure must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.

PBTW, Ex d Temperature Controller Type 27-54D*-**/******
- The width of gap of the Ex d Temperature Switch is below the maximum values according to IEC 60079-1. Contact BARTEC for maintenance or repair of Ex d Temperature Switch.
- The capillary of the PBTW and PT100 wiring shall be part of a fixed installation and shall be effectively clamped to prevent pulling or twisting.

PBTW, PBTC, Temperature Controller Type 27-54-****/******
- Shall be applied for maintaining temperature only.
- The capillary of the PBTW and PT100 wiring shall be part of a fixed installation and shall be effectively clamped to prevent pulling or twisting.

Heating system PLEXO TCS type 27-59P*-**/******

The classification of the temperature class of the PLEXO TCS Heating System is done from the operator depending on the used heating cable. The ambient temperature range of PLEXO TCS Heating System depends also of the used heating cable. This information is recorded on the operator side in accordance with the specifications in the operating instructions / acceptance report. The documentation must be kept secure.

Temperature Controller, ESTM type, 17-88C1-*22H/****
- Cable glands shall be used that are certified for the applicable type of protection and with suitable ratings. For EPL Db only cable glands with integrated seal or gasket may be used.
- In order to ensure safe operation of the Ex ib circuits, the ground or earth connections of all electrical circuits connected to the Temperature Controller shall be installed using potential equalization between the hazardous area and the non-hazardous area.
- Shall be applied for maintenance temperature control only.
  The use of optional Limiter ESTM-L, 17-88C1-*22H**** is not in the scope.

Self-Regulating Heating Cable Series PSB, type 07-5853-** and MSB, type 07-5854-******

Connections and terminations for installation with the Self-Regulating Heating Cable Series PSB and MSB shall be certified according to the requirements of the applicable standards for the types of protection for potentially flammable gas or combustible dust atmosphere, or as the requirements of IEC/IEEE 60079-30-1 as integral components. The connections and terminations shall be suitable for the application and correctly installed.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0093 X** Issue No. **0**

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No.'s NL/DEK/ExTR18.0053/00 and NL/DEK/ExTR20.0058/00.

(20) **Certificate history**

Issue 0 - 222113100 Initial certificate

Type designation

27	-	1	S	3	S	-	7	1	0	*	/	*	*	*	*
A		B	C	D	E		F	G	H	I		J	K	L	M

Designation	Explanation	Value	Explanation
A	Product group	**27**	Trace heating
B	Product identifier	**1**	Self regulating trace heating system
C		**S**	
D	Trace heater	**3** **4**	Type PSB Type MSB
E	Temperature limitation	**S**	Product classification / stabilized design
F	Rated voltage	**1** **7**	110 Vac … 120 Vac 208 Vac … 277 Vac System comprising: - PLEXO TCS: max. 254 Vac - ESTM: max. 230 Vac
G, H	Rated power output at +10 C	**10** **15** **25** **30** **33** **45** **60**	10 W/m (PSB, MSB) 15 W/m (PSB, MSB) 25 W/m (PSB) 30 W/m (MSB) 33 W/m (PSB) 45 W/m (MSB) 60 W/m (MSB)
I, J, K, L, M	Custom		Not relevant for certification

Thermal and mechanical data

Trace heater type	PSB	MSB
Maximum ambient temperature:		
- general [°C]	+55	+55
- system comprising ELL [°C]	+40	+40
Minimum ambient temperature:		
- general [°C]	-55	-55
- system comprising PBTC [°C]	-40	-40
Maximum continuous operating temperature, energized [°C]	+65	+110
Maximum continuous exposure temperature, de-energized [°C]	+85	+130
Minimum start-up temperature [°C]	-55	-60
Minimum installation temperature [°C]	-55	-55
Minimum bending radius [mm]	25	25
Degree of ingress protection:		
- general, in accordance with IEC 60529 and IEC 60079-0	IP66	IP66
- system comprising PLEXO TCS and/or ESTM, in accordance with IEC 60529 and IEC 60079-0	IP65	IP65
- system comprising ELL and / or PBTC, in accordance with IEC 60529 and IEC 60079-0	IP64	IP64
- system comprising ELL and / or PBTC, in accordance with IEC 60529	IP66	IP66

Electrical data

Trace heater type	PSB	MSB
Rated voltage:		
- general [Vac]	277	277
- system comprising PLEXO TCS [Vac]	254	254
- system comprising ESTM [Vac]	230	230
Maximum rating of over current protection:		
- general [A]	32	32
- system comprising PBTW [A]	16	16

Electrical data for electronic thermostat PBTC * type 27-54C2-**/E*****

NOTE: * For description of system components see system kits and description below.

Supply circuit (terminals L - N) in type of protection Ex eb:

U_m:	305 Vac (phase-neutral-PE)
Rated power without load:	4.5 W

Load circuit (terminals L - N) in type of protection Ex eb:

U_m:	305 Vac (phase-neutral-PE)
Maximum steady state current:	see Electrical data, temperature class and specified maximum surface temperature “T” below, column “PBTC”

Alarm Relay, potential free contacts in type of protection Ex eb:

Rated voltage:	277 Vac or 36 Vdc
U_m:	305 Vac
Rated switch current, resistive load:	2 A

Modbus (terminals A, B and C) in type of protection Ex eb:

U_m:	250 Vac
Rated voltage:	5 Vdc

Sensor circuit (RTD/Pt100 terminals):
In types of protection intrinsic safety Ex ib IIC, Ex ib IIB, Ex ib IIIB and Ex ib IIIC with the following maximum values:
U_o = 6.6 V; I_o = 827 mA; P_o = 1.28 W; linear characteristic; C_o = see table below; L_o = see table below.

Ex ib IIC	L_o	32 µH
	C_o	6.7 µF
Ex ib IIB Ex ib IIIB Ex ib IIIC	L_o	128 µH
	C_o	484 µF

The Ex ib sensor circuit is infallibly galvanically separated from the Alarm Relay circuit.

The Ex ib sensor circuit is not infallibly galvanically separated from all other non-intrinsically safe circuits. Therefore the earth connection of the equipment shall be connected to the potential equalizing (P.E.) system in accordance with the applicable installation standard.

Electrical data for electronic thermostat ESTM * type 17-88C1-F22H/**

NOTE: * For description of system components see system kits and description below.

Supply circuit (terminals L1 - N) in type of protection Ex eb:

Rated voltage U_{supply}:	230 Vac
U_m:	250 Vac
Rated power without load:	15 VA
Prospective short circuit current:	200 A

Load circuit primary side (terminals and bridges L1 - N / L2) in type of protection Ex eb:

Rated load voltage U load (L1 - N):	230 Vac
Rated load voltage U_{load} (L1 - L2):	400 Vac (phase-phase)
U_m:	250 Vac (phase-neutral)
Prospective short circuit current:	200 A
Maximum steady state current:	see Electrical data, temperature class and specified maximum surface temperature “T” below, column “ESTM

Load circuit secondary side (terminals H1 and H2) in type of protection Ex eb:

Rated voltage:	equal to U_{load}, mentioned above
Rated load current:	see tables above

TL SET circuit in type of protection Ex eb:

U_m:	250 Vac
Rated voltage:	5 Vdc

For use with proprietary temperature limiter set module.

Fault / alarm, potential free contacts in type of protection Ex eb:

U_m:	250 Vac
Rated voltage:	230 Vac or 30 Vdc
Rated switch current, resistive load:	2 A

MODBUS RTU In (terminals A – B) and
MODBUS RTU Out (terminals A – B) in type of protection Ex eb:

U_m:	250 Vac
Rated voltage:	5 Vdc

Ext. BUS Ethernet TCP/IP circuit in type of protection Ex eb:

U_m:	250 Vac
Rated voltage:	5 Vdc

Sensor circuits (terminals TC 1, TC2 and TL):
In types of protection intrinsic safety Ex ib IIB, Ex ib IIC, Ex ib IIIB and Ex ib IIIC with the following maximum values per circuit:
U_o = 5.0 V; I_o = 84 mA; P_o = 105 mW; linear characteristic; C_o = see table below; L_o = see table below.

Ex ib IIC	L_o [mH]	5.0	2.0	1.0	0.5	0.2
	C_o [µF]	1.9	2.7	3.4	4.1	5.4
Ex ib IIB Ex ib IIIB Ex ib IIIC	L_o [mH]	20	10	5.0	1.0	0.2
	C_o [µF]	7.9	10	13	20	33

The Ex ib sensor circuits are not infallibly galvanically separated from each other, nor from the non-intrinsically safe circuits. Therefore the earth connection of the equipment shall be connected to the potential equalizing (P.E.) system in accordance with the applicable installation standard.

Electrical data, temperature class and specified maximum surface temperature "T_L"

Product classification

The maximum surface temperature "T_L" is based upon exposure of a trace heater to a workpiece having a temperature not exceeding the maximum surface temperature "T_L".

Con-nected trace heater type	Trace heater rated power output [W/m]	$T_{amb\ max}$ [°C]	Limitation of operating current (steady state) of trace heating circuit at $T_{amb\ max}$ [A]				Max. surface temperature "T_L" [°C]		T-class
			PBS / PBM	ESTM	PBTC	PBTW **	Instal. encl. #	Trace heater ##	System ###
PSB	10, 15	+40	30	16	19	16	+110	+80	T4
			27	16	18	15	+95	+80	T5
			23	16	N/A	9	+80	+80	T6
		+55	26	16	12	16	+110	+80	T4
			24	16	12	15	+95	+80	T5
			18	16	N/A	9	+80	+80	T6
	25, 33	+40	30	16	19	16	+110	+95	T4
			27	16	18	15	+95	+95	T5
		+55	26	16	12	16	+110	+95	T4
			24	16	12	15	+95	+95	T5
MSB	10, 15	+40	20	16	19	16	+110	+130	T4
		+55	18	16	* 12	16	+110	+130	T4
	30, 45, 60	+40	20	16	19	16	+110	+170	T3
		+55	18	14	* 12	16	+110	+170	T3

Notes
* Limitations may apply to the trace heater circuit length, in order not to exceed the maximum allowed operating current (steady state). Consult the manufacturers trace heating system design documentation, containing the calculated operating current of the applicable trace heating circuit.
** PBTW is limited to use in trace heating circuits protected by a 16 A rated over current protection, see electrical data above.
\# Maximum surface temperature of installation enclosures:
- with trace heaters installed and operating (with steady state operating current);
- with the installation enclosures positioned in the worst case orientation with maximum amount of accumulated dust layer (limitations to the orientation of installation do not apply).

Maximum sheath temperature trace heater, installed on workpiece.
System comprising installation enclosure and trace heaters.

Stabilized design

The maximum surface temperature "T_L" is based upon exposure of a trace heater to a workpiece having a temperature not exceeding the maximum exposure temperature.

Con-nected trace heater type	Trace heater rated power output [W/m]	$T_{amb\ max}$ [°C]	Limitation of operating current (steady state) of trace heating circuit at $T_{amb\ max}$ [A]				Max. surface temperature "T_L" [°C]		T-class
			PBS / PBM	ESTM	PBTC	PBTW **	Instal. encl. #	Trace heater ##	System ###
MSB	10, 15	+40	20	16	19	16	+110	+110…130	T4
			9	16	18	15	+95	+95…130	T5…T4
			4	16	N/A	9	+80	+80…130	T6…T4
		+55	18	16	* 12	16	+110	+110…130	T4
			9	16	* 12	15	+95	+95…130	T5…T4
			4	16	N/A	9	+80	+80…130	T6…T4
	30, 45, 60	+40	20	16	19	16	+110	+110…170	T4…T3
			9	16	18	15	+95	+95…170	T5…T3
			4	16	N/A	9	+80	+80…170	T6…T3
		+55	18	14	* 12	16	+110	+110…170	T4…T3
			9	16	* 12	15	+95	+95…170	T5…T3
			4	14	N/A	9	+80	+80…170	T6…T3

Notes
* Limitations may apply to the trace heater circuit length, in order not to exceed the maximum allowed operating current (steady state). Consult the manufacturers trace heating system design documentation, containing the calculated operating current of the applicable trace heating circuit.
** PBTW is limited to use in trace heating circuits protected by a 16 A rated over current protection, see electrical data above.
\# Maximum surface temperature of installation enclosures:
- with trace heaters installed and operating (with steady state operating current);
- with the installation enclosures positioned in the worst case orientation with maximum amount of accumulated dust layer (limitations to the orientation of installation do not apply).

Maximum sheath temperature trace heater, installed on workpiece.
System comprising installation enclosure and trace heaters.

Conditions for stabilized design

For insulated externally heated surface lower T-class and/or maximum surface temperature "T" systems may be obtained by stabilized design of a trace heating system using methods described in EN-IEC/IEEE 60079-30-1 and -2 made under the manufacturers responsibility.

The T-class and/or maximum surface temperature "T" obtained through stabilized design is based on the energy balance of heat loss and heat production of the system. That energy balance is based on parameters as mentioned in EN-IEC/IEEE 60079-30-1 clause 7.3.3.

Those parameters including the resulting T-class and/or maximum surface temperature "T" shall be retained as a record of system documentation for as long as the system is in use.

The parameters in the system documentation shall be checked during commissioning of the system.

Nomenclature, marking, application and description of system kits

Name Type	Description	Applicable for Power	 PSB	 MSB	Kit contents *
Power boxes with separately certified power cable glands and breather drain plugs or blind plugs Marking: Ex eb 60079-30-1 IIC T6…T3 Gb Ex tb 60079-30-1 IIIC T_L 80 °C… T_L 170 °C Db					
PBS-200-E **PBM-200-E** 27-54P2-***2/1*** 27-54P2-***3/1***	Power and or splice connection	x	x	x	Trace heater box with 6 mm² terminals, CAK-SRS and PS-120-2 (PBS) or PS-120-3 (PBM)
PBS-200-E10 **PBM-200-E10** 27-54P2-***2/3*** 27-54P2-***3/3***	Power and or splice connection	x	x	x	Trace heater box with 10 mm² terminals, CAK-SRS and PS-120-2 (PBS) or PS-120-3 (PBM)
PBS-200-E16 **PBM-200-E16** 27-54P2-***2/5*** 27-54P2-***3/5***	Power and or splice connection	x	x	x	Trace heater box with 16 mm² terminals, CAK-SRS and PS-120-2 (PBS) or PS-120-3 (PBM)
PB*-300-E 27-54P2-***1/1***	Power and or splice connection	x	x	x	Trace heater box with 6 mm² terminals and CAK-SRG
PB*-300-E10 27-54P2-***1/3***	Power and or splice connection	x	x	x	Trace heater box with 10 mm² terminals and CAK-SRG
PB*-300-E16 27-54P2-***1/5***	Power and or splice connection	x	x	x	Trace heater box with 16 mm² terminals and CAK-SRG
Temperature controller in enclosure with separately certified power cable glands and blind plugs Marking: Ex eb mb [ib] 60079-30-1 IIC T6…T3 Gb Ex tb [ib] 60079-30-1 IIIC T80 °C…T170 °C Db					
ESTM 17-88C1-F22H/****	Temperature Controller with Ex ib sensor interface	x	x	x	Temperature controller in GRP enclosure
PBTC-200-E 27-54C*-**12/E***	Electronic thermostat with Ex ib sensor interface	x	x	x	Trace heater box with electronic thermostat, Pt-100, CAK-SRS and PS-120-2 for a single trace heater
PBTC-300-E 27-54C*-**11/E***	Electronic thermostat with Ex ib sensor interface	x	x	x	Trace heater box with electronic thermostat, Pt-100 and CAK-SRG for a single trace heater
Temperature controller in enclosure with separately certified power cable glands and blind plugs Marking: Ex db eb 60079-30-1 IIC T6…T3 Gb Ex tb 60079-30-1 IIIC T80 °C…T170 °C Db					
PBTW-200-E 27-54D*-***2/**** 27-54D*-***3/****	Mechanical thermostat with capillary and bulb	x	x	x	Trace heater box with mechnical thermostat, CAK-SRS and PS-120-2 or PS-120-3
PBTW-300-E 27-54D*-***1/****	Mechanical thermostat with capillary and bulb	x	x	x	Trace heater box with mechanical thermostat and CAK-SRG

Nomenclature, marking, application and description of system kits (continued)

Name Type	Description	Applicable for Power	 PSB	 MSB	Kit contents *
End of line termination in enclosure Marking: Ex db eb 60079-30-1 IIC T6…T3 Gb Ex tb 60079-30-1 IIIC T80 °C…T170 °C Db					
ELL-200-E 27-54E2-**12/***	End of Line Lamp		x	x	Trace heater box with illuminated indicator module, red or green transparent lens, CAK-SRS and PS-120-2
ELL-300-E 27-54E2-**11/***	End of Line Lamp		x	x	Trace heater box with illuminated indicator module, red or green transparent lens and CAK-SRG
End of line protected seal Marking: Ex 60079-30-1 IIC T6…T3 Gb Ex 60079-30-1 IIIC T80 °C…T170 °C Db					
ELS-200 27-54E2-AA12/***	End of Line Seal		x	x	GRP environmental protection with ES1 ##, RTV sealant, PS-E and PS-120-2
Cold applied cable connection and end termination kit Marking: Ex eb 60079-30-1 IIC T6…T3 Gb Ex tb 60079-30-1 IIIC T80 °C…T170 °C Db					
CAK-SRS 27-59CX-9C**/****	Connection and end termination kit, pedestal entry		x	x	SP1, ES1, RTV sealant and grommet for PS-120-*
CAK-SRG	Connection and end termination system, gland entry				SP1, ES1, RTV sealant, and:
27-59CX-7***/****			x	x	TG-*-1 or
27-59CX-9***/****			x	x	FG-S-*
CAK-M25 27-59CX-0G**/****	Splice and end termination kit		x	x	SP1, ES1, RTV sealant and non-metallic blanking plug for M25 power cable entry
CAK-M32 27-59CX-0H**/****	Splice and end termination system		x	x	SP1, ES1, RTV sealant, and non-metallic blanking plug for M32 power cable entry
PLEXO TCS Supply Cable Connection 27-59P1-**10/****	Power connection of heating cables	x	x	x	Power connection of heating cables
PLEXO TCS End Termination 27-59P3-0010/****	End termination of heating cables		x	x	End termination of heating cables
PLEXO TCS Heating Cable Connection 27-59P2-**10/*****	Heating cable splice connection		x	x	Heating cable splice connection
Note: ## part of CAK–* termination kits					

Description of kits or components supplied with installation enclosures (continued)

Name Type	Description	For use with Power	 PSB	 MSB	Contents
Trace heater box and accessories Types of protection: Ex eb Ex tb					
Trace heater box Part of kits	Stainless steel, coated aluminum or GRP enclosure	x	x	x	Trace heater box with Terminals and M12, M20, M25, M32 and/or custom PS 120 * entries for power cables, temperature sensors, signaling cables and trace heaters.
Earth continuity plate Custom made	Earth continuity plate in brass to bond multiple entry devices	x	x	x	Earth continuity plate with threaded bolt connection, anty skid washer, lock nut and earth continity wire.
Earth continuity wire Part of earth continuity plate	Bonding wire to bond earth continuity plate to earth				Yellow green wire with crimp lug and conductor end crimp ferrule.
Trace heater entry devices Types of protection: Ex eb Ex tb					
PS-120-2 27-59G2-2O**/****	Box pedestal for 2 trace heaters		x	x	PS-120-2, sealing to trace heater box and lock nut. Excluding grommets.
PS-120-3 27-59G2-3O**/****	Box pedestal for 3 trace heaters		x	x	PS-120-3, sealing to trace heater box and lock nut. Excluding grommets.
Grommet 27-59G2-0O**/****	Combined blanking plug and trace heater grommet for PS-120-*		x	x	Part of kits and sperately supplied in bag.
TG-P-1 27-59G1-*P**/****	M20 trace heater gland in stainless steel or nickel plated brass		x		TG-P-1, P-grommet, earth lug and lock nut.
TG-H-1 27-59G1-*H**/****	M20 trace heater gland in stainless steel or nickel plated brass			x	TG-H-1, H-grommet, earth lug and lock nut.
FG-S-1 27-59G5-*S**/****	M20 or M25 trace heater gland in stainless steel, brass or nickel plated brass		x	x	A8*F/*/20S/M2*, earth tag, lock nut and PTFE sealing washer
FG-S-C 27-59G6-*S**/****	M20 or M25 trace heater gland in stainless steel, brass or nickel plated brass		x	x	A8CF*FM20/*/20S/M2*, with M20 female conduit connection, earth tag, lock nut and PTFE sealing washer.
Earth tag Part of trace heater glands	M20 or M25 lug in brass for bonding entry devices to earth				Yellow green wire with M20 or M25 crimp lug and conductor end crimp ferrule and crimp lug.

Description of system components (continued)

Name Type	Description	For use with Power	 PSB	 MSB	Contents
Environmental protection Types of protection: Not required (trace heater end termination is Ex 60079-30-1)					
PS-E 27-59G3-1O**/****	GRP environmental protection cap for trace heater end termination.		x	x	Part of kits.
Cold applied cable connection and end termination system Types of protection: Ex 60079-30-1					
SP1 27-59CX-9***/0000	Parallel trace heater silicone conductor insulation boot for power termination.		x	x	SP1, green yellow tube and optional conductor sleeves and optional conductor end crimp ferrules.
ES1 27-59CX-9000/00**	Trace heater silicone end seal		x	x	Part of kits.
RTV Part of kits	Silicone selant				Part of kits.