

Experts for your systems

Data sheets line bushings



- Quality • Reliability • Delivery reliability
- Our knowledge for your application



- Wide temperature range
- Ready to use
- Many international approvals
- No re-certification required

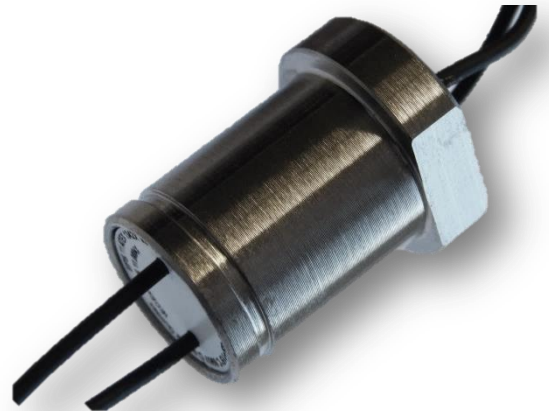
Description

Line bushings are used to electrically connect equipment in potentially explosive atmospheres. The connection is always made between a flameproof enclosure (Ex-d) and an enclosure with a different type of protection in accordance with IEC/EN 60079-0.

Alternatively, two flameproof enclosures are connected. Therefore the cables are protected from direct contact.

Depending on the design, line bushings can be used for intrinsically safe, measurement, control or power circuits, or combinations of the above.

All line bushings are cast with high temperature and leakage current resistant resin to insulate them from the enclosure.



Applications

- Ex-d enclosures, housings or Pumps
- Sensors, measurement devices, motors, actuators, pneumatic and hydraulic devices, etc.
- Used on Sea-platforms, Drilling Rigs, rolling mills, gas tanks, climatic chambers, compactors, etc.

Marking

- ⊕ II 2G Ex db IIC T4/T5/T6
- ⊕ II 2D Ex db IIIC T135°/T100°C/T85°C
- ⊕ I M2 Ex d I Mb

Certificates

ATEX
 IECEX / mining
 EAC TC-RU (GOST)
 CSA UL
 FM

Technical Data

Voltage:	440V, 690V, 1000V, 3000V (depending on model type)
Conductor sizes:	0,08mm ² to 185mm ²
Temperature range:	-55°C...+115°C (depending on model type)
Max. conductor quantity:	50 strands
Bushing diameter:	Ø10mm to Ø40mm
Plug length:	> 10mm
Bushing material:	Nickel-plated Brass (other materials on request)
Standard cable material:	RADOX 125 (other materials on request)

Special applications on request, please contact us to discuss your requirements.



- Wide temperature range
- Ready to use
- Many international approvals
- No re-certification required

Beschreibung

Line bushings are used to electrically connect equipment in potentially explosive atmospheres. The connection is always made between a flameproof enclosure (Ex-d) and an enclosure with a different type of protection in accordance with IEC/EN 60079-0.

Alternatively, two flameproof enclosures are connected. Therefore the cables are protected from direct contact.

Depending on the design, line bushings can be used for intrinsically safe, measurement, control or power circuits, or combinations of the above.

All line bushings are cast with high temperature and leakage current resistant resin to insulate them from the enclosure.



Applications

- Ex-d enclosures and Pumps
- Sensors, measurement devices, motors, actuators, pneumatic and hydraulic devices, etc.
- Used on Sea-platforms, Drilling Rigs, rolling mills, gas tanks, climatic chambers, compactors, etc.

Marking

- Ex II 2G Ex db IIC T4/T5/T6
- Ex II 2D Ex db IIIC T135°/T100°/T85°C
- Ex I M2 Ex d I Mb

Certificates

ATEX
 IECEx / mining
 EAC TC-RU (GOST)
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 FM

Technical Data

Voltage:	440V, 690V, 1000V, 3000V (depending on model type)
Conductor sizes:	0,08mm ² to 185mm ²
Temperature range:	-55°C...+115°C (depending on model type)
Max. conductor quantity:	50 strands
Thread size:	M10 to M42
Thread length:	> 10mm
Material of bushing:	Nickel-plated Brass (other materials on request)
Standard wire material:	RADOX 125 (other materials on request)

Special applications on request, please contact us to discuss your requirements.

Ex approved line bushing

2-path

General Data



- Wide temperature range
- Easy installation
- Ready to use
- Many international approvals
- Easily inter-changeable
- No re-certification required

Description:

Line bushings are used to electrically connect equipment in potentially explosive atmospheres. The connection is always established either between a flameproof enclosure (Ex-d) and an enclosure of another type of protection in accordance with IEC/EN 60079-0. Alternatively, two flameproof enclosures are connected. Thus cables are protected from direct contact.

The 2-path line bushing simplifies your installation application by means of the rotating adapter.

All line bushings are cast with high temperature and leakage current resistant resin to insulate them from the enclosure.



Applications

- Ex-d enclosures and Pumps
- Sensors, measurement devices, motors, actuators, pneumatic and hydraulic devices, etc.
- Used on Sea-platforms, Drilling Rigs, rolling mills, gas tanks, climatic chambers, compactors, etc.

Marking

- II 2G Ex db IIC T4/T5/T6
- II 2D Ex db IIIC T135°/T100°/T85°C
- I M2 Ex d I Mb

Certificates

ATEX
IECEX / mining
EAC TC-RU (GOST)
CSA UL
FM

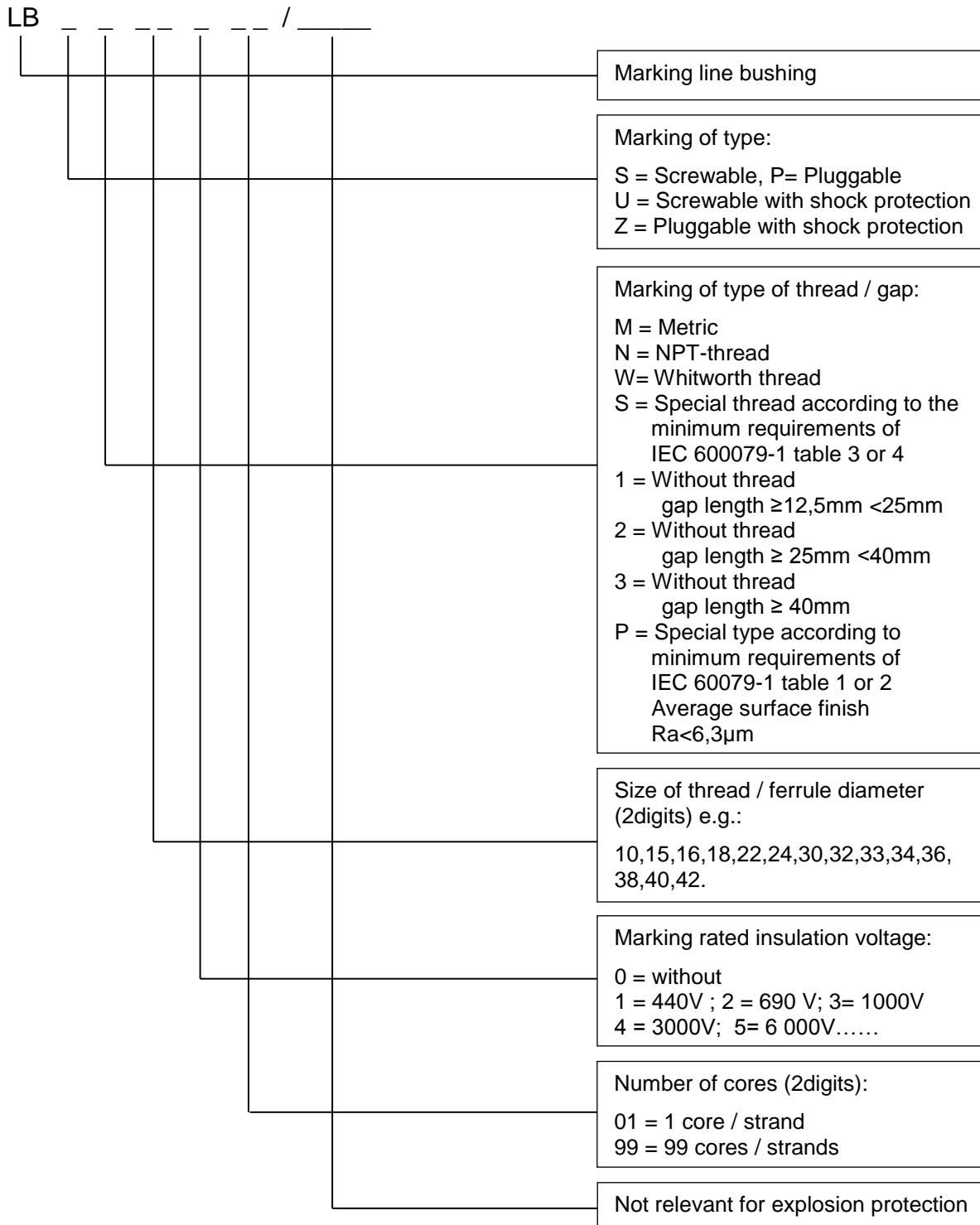
Technical Data

Voltage:	440V, 690V, 1000V, 3000V <i>(depending on model type)</i>
Conductor sizes:	0,08mm ² to 185mm ²
Temperature range:	-55°C...+115°C <i>(depending on model type)</i>
Max. conductor quantity:	50 strands
Thread size (Adapter):	M14 to M42
Thread length:	> 10mm
Material of bushing:	Nickel-plated Brass <i>(other materials on request)</i>
Standard wire material:	RADOX 125 <i>(other materials on request)</i>

Special applications on request, please contact us to discuss your requirements.



Type code



Ex approved line bushing

General data

number of cores / strands with Radox 125



Number of cores / strands for threaded sleeve

mm ²	0,25	0,34	0,5	0,75	1	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185
AWG	24	22	20	18	17	16	14	12	10	8	6	4	2	1	2/0	3/0	4/0	5/0	6/0
Ø core in mm	1,5	1,65	1,8	2,3	2,7	2,8	3,45	4,2	5,1	6,3	7,5	9,1	10,5	12,35	14,65	16,3	18,4	20,8	22,5
Distance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5	1,5	1,5	1,5
SW12 M10	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
SW14 M12	4	3	3	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
SW19/21 M16	9	9	8	7	5	4	3	1	1	1	1	0	0	0	0	0	0	0	0
SW24 M20	17	15	14	10	8	8	5	4	3	1	1	1	1	0	0	0	0	0	0
SW27 M24	29	25	23	19	14	14	9	8	5	3	2	1	1	1	1	1	0	0	0
SW27 M25	29	25	23	19	14	14	9	8	5	3	2	1	1	1	1	1	0	0	0
SW32 M30	50	46	40	32	23	23	19	13	9	7	5	3	2	1	1	1	1	1	0
SW36 M32	50	50	50	34	29	26	21	14	10	7	5	4	3	1	1	1	1	1	0
SW36 M33	50	50	50	41	32	32	22	17	13	8	7	4	3	1	1	1	1	1	0
SW41 M36	50	50	50	46	37	37	25	20	15	9	7	5	4	2	1	1	1	1	1
SW41 M38	50	50	50	46	37	37	25	20	15	9	7	5	4	2	1	1	1	1	1
SW42 M40	50	50	50	50	47	47	32	25	20	13	9	7	5	3	2	1	1	1	1
SW46 M42	50	50	50	50	50	50	37	29	22	15	10	8	5	4	2	1	1	1	1

Number of cores / strands for pluggable sleeve

mm ²	0,25	0,34	0,5	0,75	1	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185
AWG	24	22	20	18	17	16	14	12	10	8	6	4	2	1	2/0	3/0	4/0	5/0	6/0
Ø core in mm	1,5	1,65	1,8	2,3	2,7	2,8	3,45	4,2	5,1	6,3	7,5	9,1	10,5	12,35	14,65	16,3	18,4	20,8	22,5
Distance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5	1,5	1,5	1,5
Ø10	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Ø12	4	3	3	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Ø16	9	9	8	7	5	4	3	1	1	1	0	0	0	0	0	0	0	0	0
Ø19	17	15	14	10	8	8	5	4	3	1	1	1	1	0	0	0	0	0	0
Ø22	29	25	23	19	14	14	9	8	5	3	2	1	1	1	1	1	0	0	0
Ø30	50	46	40	32	23	23	19	13	9	7	5	3	2	1	1	1	1	1	0
Ø32	50	50	50	34	29	26	21	14	10	7	5	4	3	1	1	1	1	1	0
Ø34	50	50	50	41	32	32	22	17	13	8	7	4	3	1	1	1	1	1	0
Ø36	50	50	50	46	37	37	25	20	15	9	7	5	4	2	1	1	1	1	1
Ø40	50	50	50	50	47	47	32	25	20	13	9	7	5	3	2	1	1	1	1

Number of cores / strands for 2-path line bushing

mm ²	0,25	0,34	0,5	0,75	1	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185
AWG	24	22	20	18	17	16	14	12	10	8	6	4	2	1	2/0	3/0	4/0	5/0	6/0
Ø core in mm	1,5	1,65	1,8	2,3	2,7	2,8	3,45	4,2	5,1	6,3	7,5	9,1	10,5	12,35	14,65	16,3	18,4	20,8	22,5
Distance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5	1,5	1,5	1,5
M14 Ø10	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
M16 Ø12	4	3	3	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
M20 Ø16	9	9	8	7	5	4	3	1	1	1	0	0	0	0	0	0	0	0	0
M24/M25 Ø19	17	15	14	10	8	8	5	4	3	1	1	1	1	0	0	0	0	0	0
M30/M32 Ø22	29	25	23	19	14	14	9	8	5	3	2	1	1	1	1	1	0	0	0
M36 Ø30	50	46	40	32	23	23	19	13	9	7	5	3	2	1	1	1	1	0	0
M38 Ø32	50	50	50	34	29	26	21	14	10	7	5	4	3	1	1	1	1	1	0
M40 Ø34	50	50	50	41	32	32	22	17	13	8	7	4	3	1	1	1	1	1	0
M42 Ø36	50	50	50	46	37	37	25	20	15	9	7	5	4	2	1	1	1	1	1

Ex approved line bushing
 strands / cable selection

General Data



Cable type	Description	Temperature range
Radox 125	single core	-55°C...+115°C
Radox 155	single core	-55°C...+100°C
Radox UL 3271 / 3266	single core	-55°C...+115°C
Betatherm 145	single core	-55°C...+115°C
Betatherm UL 3271 / 3266	single core	-55°C...+115°C
H05V-K / H07V-K	single core	-30°C...+80°C
H05G-K / H07G-K	single core	-40°C...+110°C
Balzertherm 110HX	single core	-40°C...+110°C
NSGAFÖU	single core	-40°C...+80°C
Metrofunk Kabelunion Typ 0,09mm ²	single core	-40°C...+105°C
Helutherm A 145	single core	-55°C...+115°C
FBL Typ 14x0,08mm ²	ribbon cable	-20°C...+105°C
Radox 125	multi core	-55°C...+115°C
special cable 2xAWG28/7	multi core	-55°C...+105°C
H07RN-F	multi core	-30°C...+60°C
CAN BUS	multi core	-40°C...+70°C
UNITRONIC BUS CAN	multi core	-30°C...+80°C
ÖLFLEX CLASSIC 110 CY	multi core	-40°C...+80°C
ÖLFLEX FD90	multi core	-40°C...+90°C
F-CY-JZ / F-CY-OZ	multi core	-40°C...+80°C
JZ-500	multi core	-40°C...+80°C
JZ-500 HMH-C	multi core	-40°C...+70°C
JZ-500 PUR	multi core	-40°C...+80°C
JZ-600-Y-CY	multi core	-40°C...+80°C
PAAR-TRONIC-CY	multi core	-30°C...+80°C
SUPER-PAAR-TRONIC	multi core	-40°C...+80°C
Dätwyler patch cord	multi core	-20°C...+60°C
HELUKAT 100 UTP, LAN Kabel, Cat. 5	multi core	-20°C...+60°C
HELUKAT 100S, Ethernet, Cat. 5e	multi core	-40°C...+80°C
HELUKAT 200IND, Ethernet, Cat. 5e	multi core	-40°C...+80°C
HELUKAT 500IND, Ethernet, Cat. 6a	multi core	-40°C...+70°C
HELUKAT 600IND, Ethernet, Cat. 7e	multi core	-40°C...+80°C
RG174	coaxial cable	-35°C...+80°C
RG178	coaxial cable	-55°C...+115°C
RG213	coaxial cable	-35°C...+80°C
RG316	coaxial cable	-55°C...+115°C
G50/CWJH (multimode)	fibre optic cable	-20°C...+70°C
G62,5/CWJH (multimode)	fibre optic cable	-20°C...+70°C
E9/CWJH E30 (singlemode)	fibre optic cable	-20°C...+70°C
Radox FO (multimode + singlemode)	fibre optic cable	-55°C...+85°C

Other strands / cables available on request. Please contact us to discuss your requirements.

Ex approved blind plugs

General Data



- Wide temperature range
- Light weight item
- Ready to use, readily available
- Many international approvals
- All variations possible
- No re-certification required

Description

Blind plugs are used to seal off open entries of an enclosure, whether they be clearance holes or threaded.

They are inserted in place of an approved cable gland to ensure the enclosure is fully sealed in potentially explosive atmospheres.

All blind plugs are formed in threaded or pluggable formats.

Special applications are possible (thread on both sides, NPT thread, etc.).



Applications

- Ex d enclosures, housings or Pumps
- Sensors, measurement devices, motors, actuators, pneumatic and hydraulic devices, etc.
- Used on Sea-platforms, Drilling Rigs, rolling mills, gas tanks, climatic chambers, compactors, etc.

Markings

- II 2G Ex db IIC T4/T5/T6
- II 2D Ex db IIIC T135°/T100°C/T85°C
- I M2 Ex d I Mb

Certificates

ATEX
IECEX / mining
EAC TC-RU (GOST)
CSA UL
FM

Technical Data

Temperature range: -55°C...+115°C

Thread / bushing size: M10 to M42
Ø10mm to Ø40mm
(other applications on request)

Thread / plug length: > 10mm

Bushing material: Nickel-plated Brass
(other materials on request)

Special applications on request, please contact us to discuss your requirements.



Type code

LBU ___ 000 / ___

Identification blind plug

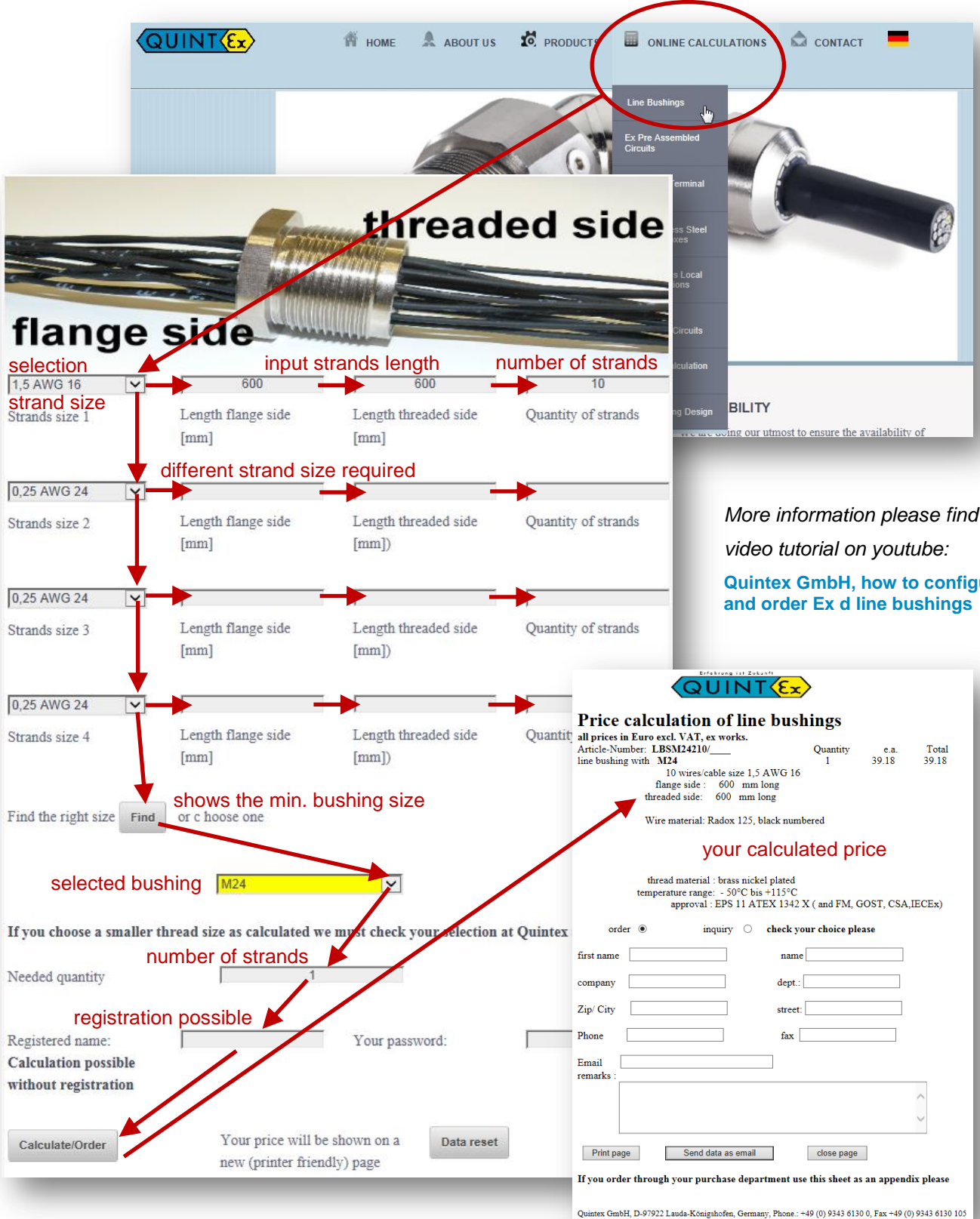
Thread / gap type:
 M = Metric
 N = NPT-thread
 W = Whitworth thread
 S = special thread according to the minimum requirements of IEC 600079-1 table 3 or 4
 1 = without thread
 gap length $\geq 12,5\text{mm}$ < 25mm
 2 = without thread
 gap length $\geq 25\text{mm}$ < 40mm
 3 = without thread
 gap length $\geq 40\text{mm}$
 P = special type according to minimum requirements of IEC 60079-1 table 1 or 2
 Average surface finish
 $R_a < 6,3\mu\text{m}$

Size of thread / core diameter (2digits)
 e.g.:
 10,15,16,18,22,24,30,32,33,34,36,
 38,40,42.

without explosion protection relevance

www.quintex.eu

online calculation



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Line Bushings
 Ex Pre Assembled Circuits

flange side **threaded side**

selection: 1,5 AWG 16
 strand size: Strands size 1
 input strands length: 600
 number of strands: 10

Strands size	Length flange side [mm]	Length threaded side [mm]	Quantity of strands
1,5 AWG 16	600	600	10
0,25 AWG 24			
0,25 AWG 24			
0,25 AWG 24			

different strand size required

Find the right size **Find** shows the min. bushing size or choose one

selected bushing **M24**

If you choose a smaller thread size as calculated we must check your selection at Quintex

Needed quantity: 1
 number of strands: 10
 registration possible
 Calculation possible without registration

Price calculation of line bushings
 all prices in Euro excl. VAT, ex works.
 Article-Number: LBSM24210/
 line bushing with M24
 10 wires/cable size 1,5 AWG 16
 flange side : 600 mm long
 threaded side : 600 mm long
 Wire material: Radox 125, black numbered

Quantity	e.a.	Total
1	39.18	39.18

your calculated price

thread material : brass nickel plated
 temperature range: - 50°C bis +115°C
 approval : EPS 11 ATEX 1342 X (and FM, GOST, CSA,IECEX)

order inquiry check your choice please

first name: _____ name: _____
 company: _____ dept.: _____
 Zip/ City: _____ street: _____
 Phone: _____ fax: _____
 Email: _____
 remarks: _____

Print page Send data as email close page

If you order through your purchase department use this sheet as an appendix please

Quintex GmbH, D-97922 Lauda-Königshofen, Germany, Phone.: +49 (0) 9343 6130 0, Fax +49 (0) 9343 6130 105

Calculate/Order Your price will be shown on a new (printer friendly) page Data reset

More information please find video tutorial on youtube:

Quintex GmbH, how to configure and order Ex d line bushings