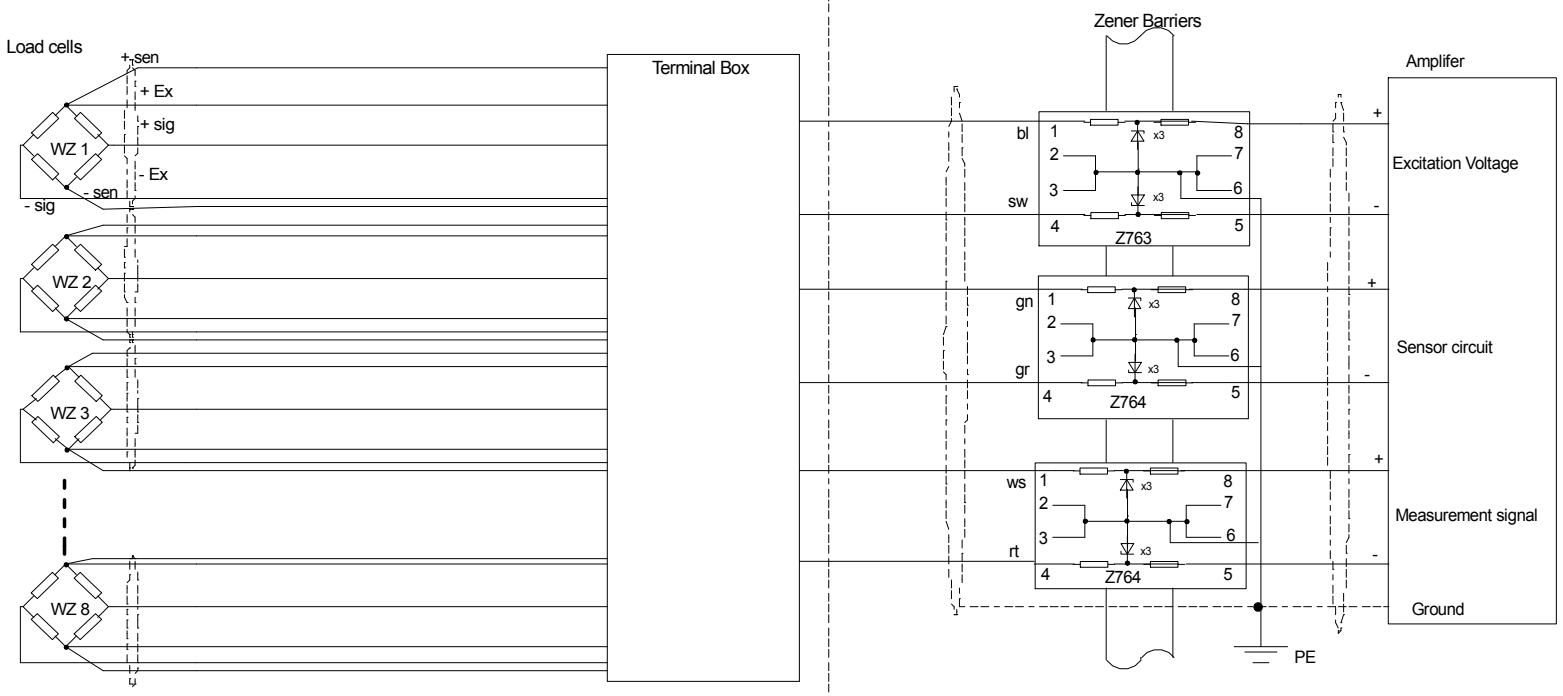
HAZARDOUS AREA

NON HAZARDOUS AREA



Technical data Zener Barriers:

Type Z763
Pepperl+Fuchs
⟨Ex⟩ II (1) GD [Ex ia Ga] IIC
BAS 01 ATEX 7005
-20 °C < Ta < 60 °C
U_{o1} = 11.6 V U_{o2} = 1.6 V
R_{o1} = 31.35 Ohm R_{o2} = 31.35 Ohm
C_{oIIC1} = 1.59 µF C_{oIIC2} = 100 µF
L_{oIIC1} = 250 mH L_{oIIC2} = 13.66 mH

Type Z764
Pepperl+Fuchs
⟨Ex⟩ II (1) GD [Ex ia Ga] IIC
BAS 01 ATEX 7005
-20 °C < Ta < 60 °C
U_{o1} = 11.6 V U_{o2} = 11.6 V
R_{o1} = 980 Ohm R_{o2} = 980 Ohm
C_{oIIC1} = 1,59 µF C_{oIIC2} = 1.59 µF
L_{oIIC1} = 246.9 mH L_{oIIC2} = 246.9 mH

Load cells:
e.g. HLC I-S-H-S-V3030-OV1-C-E
HBM

⟨Ex⟩ II 1 G Ex ia IIC T6/T4 Ga
⟨Ex⟩ II 1 D Ex ia IIIC T125°C Da
-30 °C < Ta < 70 °C
BVS 13 ATEX E 108 X

U_i = 30 V
I_i = 500 mA
P_i = 4 W
C_i, L_i = negligible

Load cell cable:
6 x 0.14 mm²
HBM 200.00-7277 EA

C_{LC} = 162 nF/km
L_{LC} = 0.85 mH/km
I_{LC} = 6 m
C_{eLC} = 8 x 0.972 nF =
7.776 nF x 6 = 46.66 nF
L_{eLC} = 2 x 5.1 µH = 10.2 µH

System with Lapp cable:
Capacitance total of 6-wire Cable:
C_{es} = 92 nF with Earth connection
(77 nF without Earth connection)

Inductance total of 6-wire Cable:
C_{es} = 90.2 µH

System with HBM cable:
Capacitance total of 6-wire Cable:
C_{eH} = 125 nF with Earth connection
(104 nF without Earth connection)

Inductance total of 6-wire Cable:
C_{eH} = 210.2 µH

Terminal box
VKK2R-8Ex
HBM

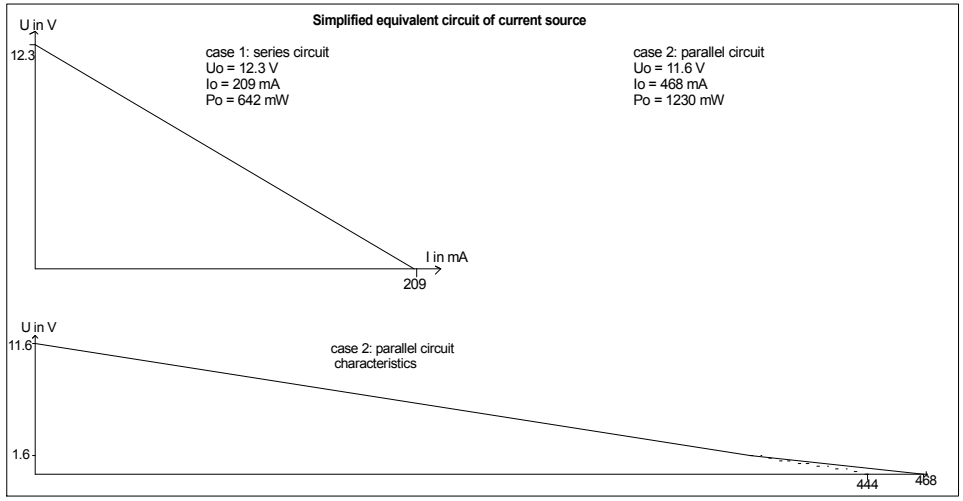
⟨Ex⟩ II 2G Ex ia IIC T4 Gb
⟨Ex⟩ II 2D Ex ia IIIC T125 °C Db
-20 °C < Ta < 70 °C
PTB 05 ATEX 2014

U_i = 22 V
I_i = 469 mA
P_i = 4 W
L_i, C_i = negligible

Measurement cable:
Li2YCY PiMF 3 x 2 x 0.5 mm²
Cable type B
Lapp
C_{STS} = 75 nF/km
L_{STS} = 0.4 mH/km
I_{STS} = 100 m
C_{eSLC} = 6 x 7.5 nF = 45 nF
L_{eSLC} = 2 x 40 µH = 80 µH

Alternative measurement cable:
LF-2YAECVY 3 x 2 x 0.14 mm²
Cable type B
HBM
C_{STS} = 130 nF/km
L_{STS} = 1 mH/km
I_{STS} = 100 m
C_{eSLC} = 6 x 13 nF = 78 nF
L_{eSLC} = 2 x 100 µH = 200 µH

Simplified equivalent circuit of current source



In accordance with ISpark - Calculation:
These values are uncritical

Created by	Checked by	Approved by - Date	File name	Date	Scale
M. Rottmann				2017-04-24	

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Control-Drawing ATEX Load cell SB01A-8LC

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