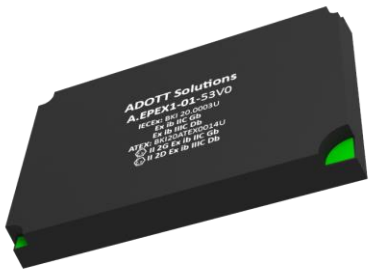
Intrinsically Safe Ethernet Protection Module



1 Features

- Limits the possible voltages on the Ethernet lines in case of communication equipment malfunction (e.g. failures in the source equipment in safe area).
- Used in barriers for LAN from safe area to Zones 2, 1, 22 and 21.
- Over-voltages are limited to the range of -1.3V to +56V*
- Maximum INPUT voltage range (in case of failure in source equipment): -340 V to +340 V
- Up to 100 Mbit/s transfer speed on 100m CAT7 cable
- Integrated fuses
- 14.5Ω series resistance.
- Zero self-capacitance.
- IEC and ATEX certified component: Zone 1 and Zone 2, Zone 21 and Zone 22
- Connectors: 2×4 pin, 2 mm pitch receptacles
- Package dimensions (W x L x H): 62.1mm x 40.5mm x 8.6mm
- Mounted height: 10.65 mm **
- RoHS Compliant, Pb free

** Depends on the selected part number*

*** Assumes 2 mm thickness of mating header insulation*

2 Certifications

2.1 IECEx Certification (IEC 60079-0, 60079-11)

IECEx BKI 20.00003U

- Ex ib IIC Gb
- Ex ib IIIC Db

2.2 ATEX Certification (ATEX Directive 2014/34/EU)

BKI20ATEX0014U

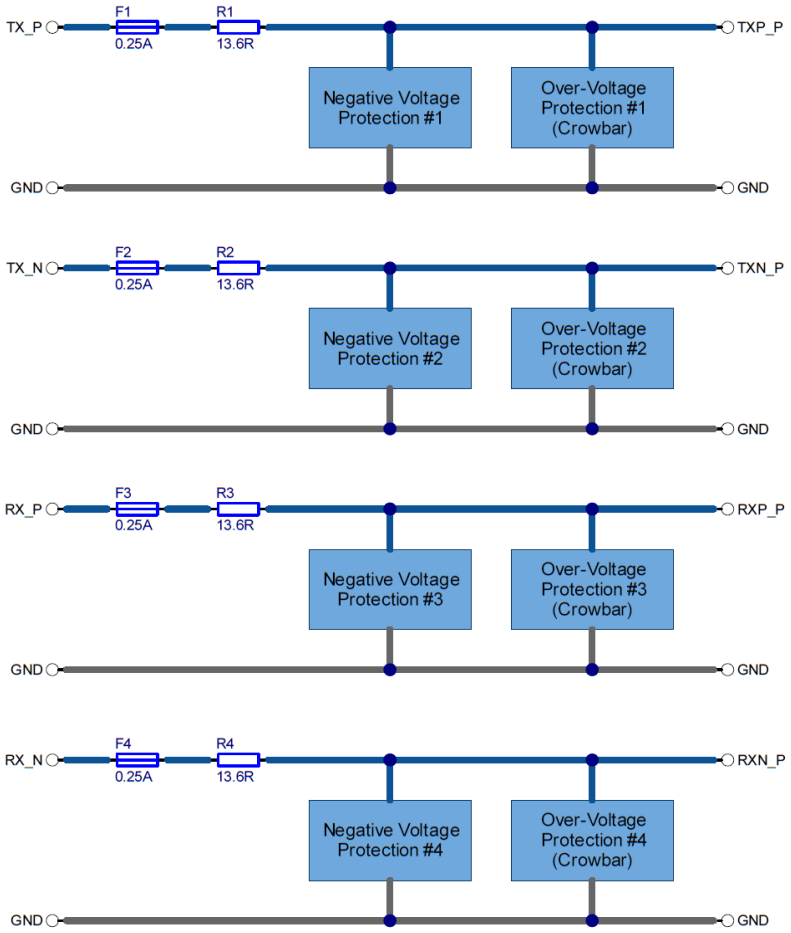
- Ⓔx II 2G Ex ib IIC Gb
- Ⓔx II 2D Ex ib IIIC Db

3 Part Numbers:

A.EPEX *X* **-** *X X* **-** *X X* **V** *X*

- *X* – Generation (0-9 A-Z)
- *X X* – Revision (00-99)
- *X X* **V** *X* – Tripping voltage (53V0)

4 Block Diagram

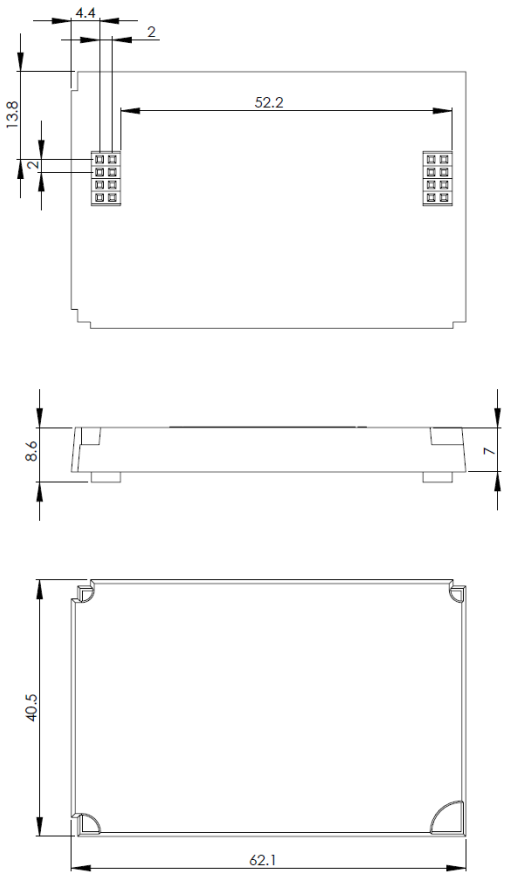


5 Electrical Characteristics

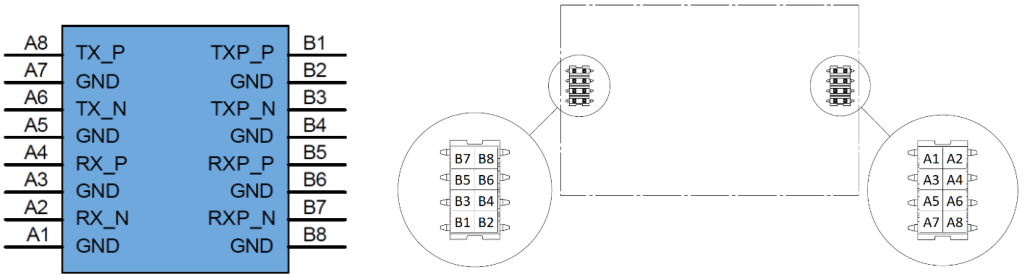
Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating temperature range	T_A	-50	-	+125	°C
Absolute maximum input voltage range	V_{IN_MAX}	-353	-	+353	V
Operating input voltage range	V_{IN}	-340	-	+340	V
Nominal tripping voltage [1]	V_T	49.9	53	56	V
Negative tripping voltage		-	0.6	1.3	V
Series resistance	R_S	13.9	14.2	14.5	Ω
Nominal value of internal fuse	I_N	-	0.25	-	A
Channel capacitance	C_{TOT}	-	16	-	pF

All values are defined on 25 °C ambient temperature unless other conditions are specified.
Parameters are defined for a single channel unless noted.
EPEX module does not limit the current, just the voltage.
[1] *Value depends on part number.*

6 Mechanical Dimensions:



7 Pinout Footprint *(MOLEX 0877590850)*:



8 Intrinsic Safety:

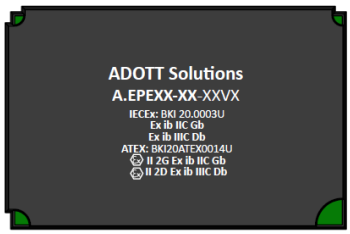
8.1 Schedule of Limitations

- This module must be encapsulated according to IEC 60079-11
- In the application of this module, keep required separation distances to the module according to IEC 60079-11
- There is no voltage increasing inside the module
- Enclosure of the equipment in which the module is to be used must be at least IP2x
- It is not allowed to attempt to repair or disassemble the module
- This module is ensuring a limited voltage on its output. However, for application of the module, further consideration is required to ensure that the combination of voltages, currents and components (e.g. capacitors, inductors) that are to be connected to the output of the module, will maintain the safety of the equipment (e.g. via Annex A of IEC 60079-11 or spark assessment).

8.2 Markings:

ADOTT Solutions
A.EPEX *X* - *X X* - *X X* V *X*
IECEx: BKI 20.0003U
Ex ib IIC Gb
Ex ib IIIC Db
ATEX: BKI20ATEX0014U
Ⓔx II 2G **Ex ib IIC Gb**
Ⓔx II 2D **Ex ib IIIC Db**
www.adott.solutions

Top side



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