


More “in the box”: distributed, intrinsically safe actuators for explosion-hazard applications!

Power I/O Box, Type 8643, with FOUNDATION Fieldbus or PROFIBUS PA interface 



Bürkert Fluid Control Systems
Christian-Bürkert-Straße 13-17
74653 Ingelfingen

Tel. +49 (0)7940/10-111
Fax +49 (0)7940/10-448

info@de.buerkert.com
www.buerkert.com

- Efficient connection of binary signals to a central automation system
- Communication via FOUNDATION Fieldbus H1 or PROFIBUS PA
- Connection of up to four pilot valves and eight NAMUR initiators
- Integrated diagnostic and monitoring functions

Well-connected

Bürkert's Power I/O Box, Type 8643, is a system product that allows extremely cost-effective connection of distributed binary signals to a process control system. Valves and NAMUR sensors are controlled here via a Fieldbus in accordance with IEC 61158-2.

Standardized for Normality

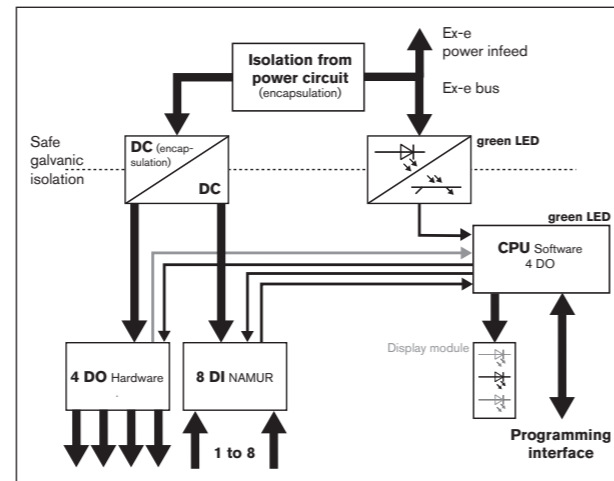
An exclusive advantage: the Box is approved for the explosion-hazard sector and can operate "normal" intrinsically safe actuators! The advantage thus lies in its reduced sensitivity. Of course, programmable diagnostic and monitoring functions are integrated, and bidirectional transfer of signals (switching commands and sensor signals) ensures maximum process reliability. In a word: Bürkert's I/O Box rightly bears the name "Power".

Variable for Explosion-hazard Applications

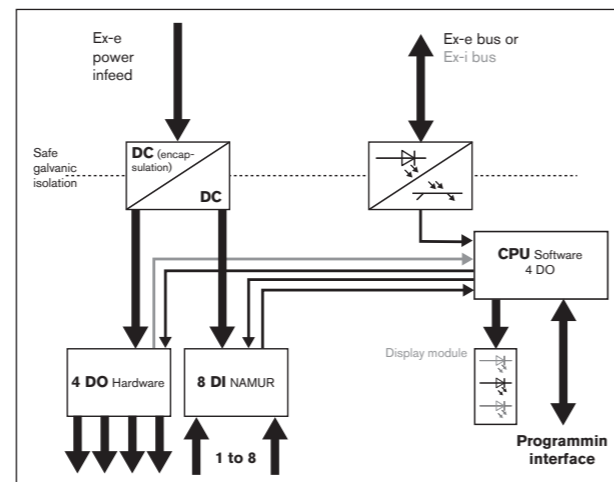
With its IP 65 housing protection and a permitted temperature range of -20 °C to +60 °C, the Power I/O Box, Type 8643, offers considerable latitude and flexibility for use in explosion-hazard areas.

Maximum Efficiency and Low Cost

The impressive efficiency of the Power I/O Box is complemented by high cost-effectiveness: in particular, dispensing with sensitive and expensive low-power actuators makes our system solution robust, flexible and low-cost. A product that is fully in line with market requirements and one that enables Bürkert to present a new high-light in data transfer between the coordinating control level and field level.



2-wire configuration



4-wire configuration

Technical Data

APPROVAL

II 2(1) G/D EEx [ia] em
IIC T4 (ATEX)

TEMPERATURE RANGE

-20 °C to +60 °C

EMC

EN 50081-2, 50082-2, NE 21

HOUSING

Polyester (black),
Powder-coated aluminum (gray)

IP66

260 x 160 x 90 mm
12 x M20 cable gland, ~3.8 kg

Electronic module for installation in
Ex-e housing, min. IP54,
Power & trunk IP30, I/Os IP20
~250 x 150 x 80 mm, ~1.5 kg

SUPPLY VOLTAGE

17 – 32 V, max. 350 mA @ max. load,
Min. voltage, max. 125 mA @ DIs only,
Option for direct or capacitive grounding

INTERFACES

FOUNDATION FIELDBUS H1; PROFIBUS PA IN
ACCORDANCE WITH IEC 61158-2

- Ex-e or Ex-i @ 4-wire device
- Ex-e @ 2-wire device

OUTPUTS

4 x Ex-i, DO, $U_0 = 22.8 \text{ V}$, $R_i < 330 \text{ Ohm}$,
 $I \approx 30 \text{ mA}$ for 50 ms, limited to $\approx 15 \text{ mA}$ thereafter

INPUTS

8 x Ex-i DI, $U_0 = 8.2 \text{ V}$ in accordance with NAMUR,
EN 50227, also option for contacts

- Safe galvanic isolation between operating voltage, bus line and I/O level, $U_m = 253 \text{ V}$ in accordance with EN 50020
- Galvanic isolation of DI and DO, $U_m = 60 \text{ V}$

MTBF

> 20 years in accordance with MIL 217

SOFTWARE

DO function blocks, DI function blocks

OPTION

LED module for status of inputs and outputs



The Power I/O Box, polyester version, for environments requiring corrosion resistance.



The aluminum coating ensures the high strength, stability and temperature resistance of the Box.