



PTB Nr.Ex-88. .B.2022

PTB Nr.Ex-88.B.1019 U

- Installation in hazardous area
- Two-point regulation at over-pressure during purging phase (at operation: compensation for leakage loss)
- Report of operational status to servicing panel for: Voltage On - purging phase started - Ready - On
- Intrinsically safe input for door end-switch (via terminal 0) - causing interruption of purging air quantity at opened door
- Digital time adjustment for purging
- Intrinsically safe servicing unit, also mountable at the front of the enclosure

The control equipment FS 821 is complementary to our E EX p-Control equipment program FS 81 0 /FS 81 1. It can be mounted within the hazardous area and has an

enlarged servicing and controlling capacity compared to the previous equipment

Function

Upon inlet of voltage, the magnet valve switches to the large cross-section in order to let-in air or inert air into the pressurised capsuled enclosure. Is an intrinsically safe servicing panel BT813/814/815 connected to the terminals 4.8, then the blinking of the ready-light-indicator shows operational readiness of the equipment. Automatically, the required air for the purging phase starts flowing through the magnetic valve with the large cross-section.

The start of the purging phase is being indicated at the ready-light blinker with pulsating lights. The time for the purging phase is to be adjusted at the control equipment and depends upon the volume of the enclosure, the prepressure at the valve, and the cross-section of the jet's cross-section and can be read of the purging time diagram.

If during the purging phase (operation: compensation for leakage losses) a not allowed overpressure occurs within the enclosure, e.g. by a clogged air exit at the pressure sensor, then the magnet valve switches off the large cross-section automatically. The equipment automatically controls itself for trouble by repeated short cycles of switch-ins. Upon successful elimination of the trouble, a new purging phase starts automatically. Considering this addition of control function during the purging phase, breakage protection is reached for the enclosure.

As soon as the purging phase is completed, the valve switches to the smaller jet cross-section by itself. The air quantity streaming in is sufficient to keep up an overpressure of 0,8 mbar within the enclosure. This operational phase is indicated by a constant light at the light indicator at the servicing panel. Now the supply voltage can be switched-on for the equipment within the enclosure via control equipment FS 821. This switching happens automatically (bridge terminal 4/6), if no servicing panel is connected or if a servicing panel is connected, by closing of the On-switch.

The switch status is additionally shown by a light of the on-light-indicator at the servicing panel.

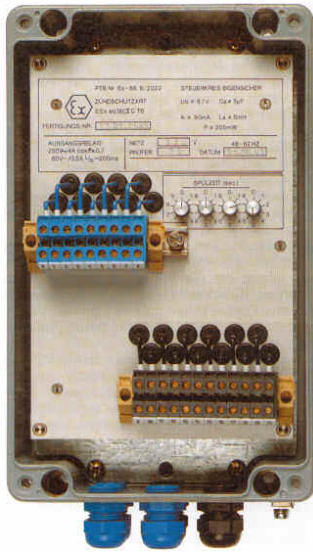
If the over-pressure within the enclosure is falling under 0,8 mbar, for instance when opening the enclosure door, or when the over-pressure within the enclosure goes beyond 15 mbar, then the over-pressure-capsuled equipment is switched tension-free and a new purging phase will begin. The status of the switch phase of the pressure switches P2 and P3 is indicated by light diodes of the pressure sensor DW 812.

The control equipment FS 821 can be used for operation of constant purging by reswitching the pressure sensor DW 812.

TECHNICAL DATA:

Mounting	: within hazardous area	Purging time	: digital time setting up to 9999 sec.
Ex-protection	: E Ex eq ib 11 C T6	Power consumption	: 2,5 VA without extern consumers
Type of protection	: IP 65	Mains	: 24 V, 42 V \approx , 110 V \approx , 120 V \approx , 220 V \approx , 230 V \approx
Sizes l x w x h	: 260 x 160 x 90		48-62 Hz
Material	: Aluminium, varnished	Make circuit	: U \leq 250 V \approx , I \leq 4 A, cos (φ) \leq 0,7
Control circuit	: U ₀ \leq 9,1 V - C _a \leq 5 μ F		: U \leq 60V-, I \leq 0,5 A, LR = 200ms
	: I _k \leq 90 mA - L _a \leq 5mH	Ambient temp.	: -20 to +40° C
	: P \leq 205 mW		

Dimensions

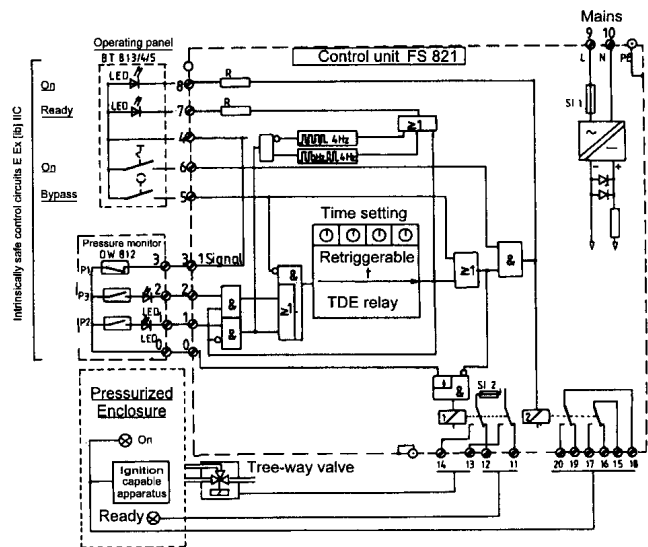


260 x 160
Height 90 mm

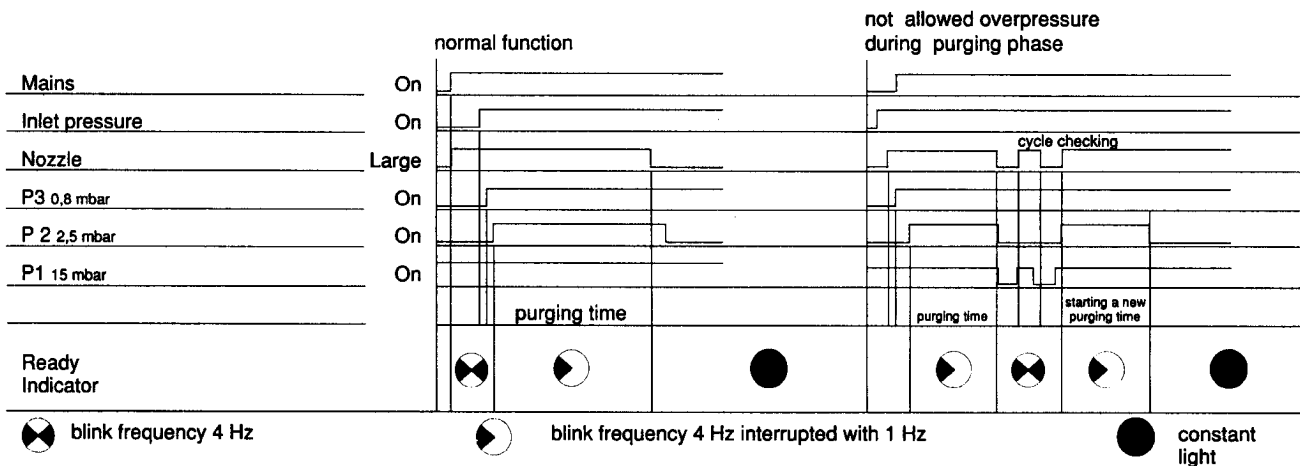
Drilling:
240 x 110 mm
Illustration without
cover

Block diagram

Control equipment
FS 821



Signal of the program operation on the intrinsically operating panel



Type:
Control equipment mounted in
hazardous area FS 821.0

The control equipment can be connected with all
components of FS 810/81 1, like pressure sensor
DW 812, and servicing panel BT 813/4/5.

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Zertifiziertes

Qualitäts-
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