**Gönnheimer**
**Elektronic GmbH**

# Simplified pressured enclosure for ZONE 2

according to EN 50016 / DIN 57 165

# E Ex p

**Extract from DIN 57 165**

6.3Requirements for the installation in zone 2

6.3.1Admissible electric components

6.3.4.1 Components, which in operation cause electric sparks, arcs or non admissible temperatures may not be used unless their housing have a simplified excess-pressure capsuling.

Components which comply with above conditions, must be delivered with the manufacturer's note, e. g. "with simplified excess-pressure capsuling according to DIN VDE 0165/02.91, paragraph 6.3.1.4."

Simplified excess-pressure capsuling refers to a shielding in accordance with DIN EN 50016/VDE 0170/0171 part 3/05.78 iincluding the following simplifications:
- pre purging can be omitted
- one alarm is sufficient in case of loss of excess-pressure
- ignition protecting gas can be conducted in explosive zone 2 if during operation emission of electric sparks is avoided.

| Leakage compensation | Permanent purging |
|---|---|
| S2 short red | S2 long blue |
| S1 long blue | S1 short red |

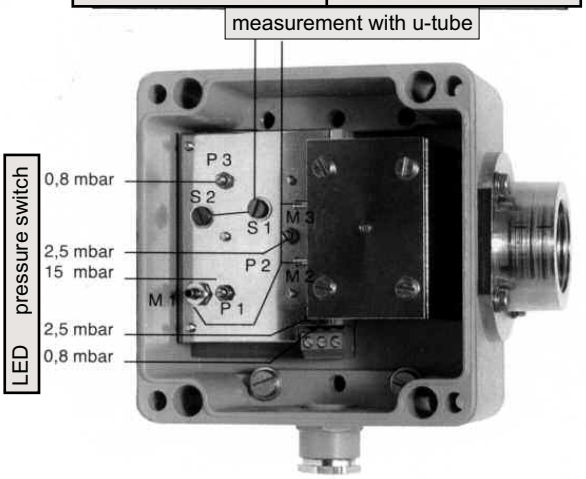
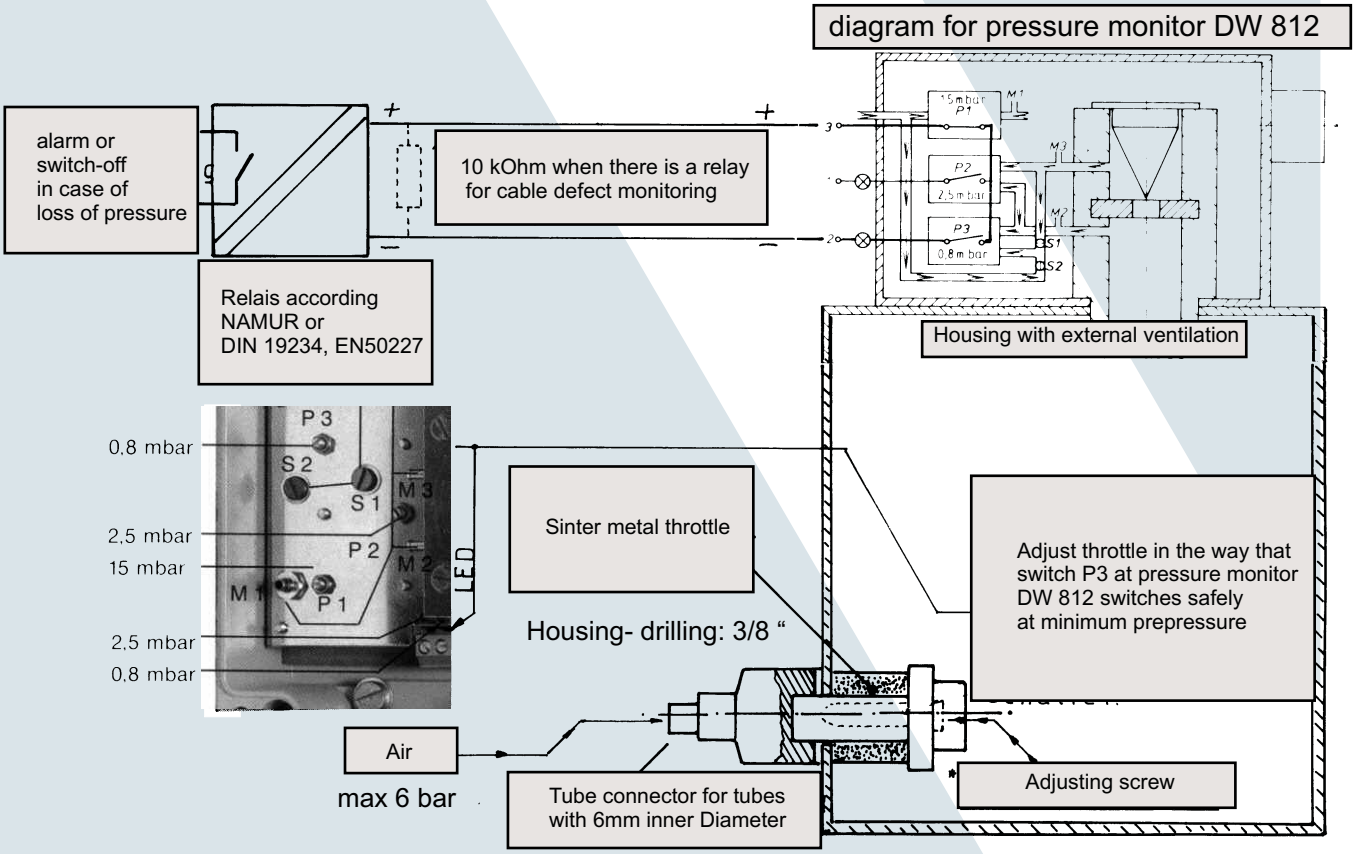



diagram for pressure monitor DW 812



## Simplified pressurized enclosures

### *Application*

Simplified pressurized enclosures are allowed in Zone 2. The basic component is an IP 55 enclosure (usually a restricted breathing enclosure) that requires only a minimal air supply to make up for leakage losses. Simplified pressurized enclosures dispense with preliminary flushing and with an automatic cutout (deenergizing) when the pressure drops below the minimum level. Of course, though, switching amplifiers are available to permit warnings and alarms to be given whenever the pressure drops below the minimum or rises above the maximum permissible limit.

### *Design and construction*

Simplified pressurized enclosures generally consist of three components:

- the simplified pressurized control box or cubicle
- the pressure monitor with 2 switches for 0.8 mbar and 15 mbar
- the adjustable air or flushing gas orifice

The orifice must be set in such a way that the necessary pressure of 0.8 mbar can be maintained with a minimum supply of air or gas. If the dissipation power of the housed components requires it, the flushing gas flow can be increased. In this case, however, the pressure monitor must be switched to the «continuous flushing» mode.

### *Technical data*

For automatic compensation of leakage losses, the following conditions must prevail at the pressure monitor:

- S1 closed (blue screw plug)
- S2 open (red screw plug)
- P1 positive pressure in pressure monitor
- P2 flow measurement during flushing
- P3 pressure monitoring in enclosure following flushing (measurement in relation to atmospheric pressure)

### *Maintenance of pressurized control systems and enclosures*

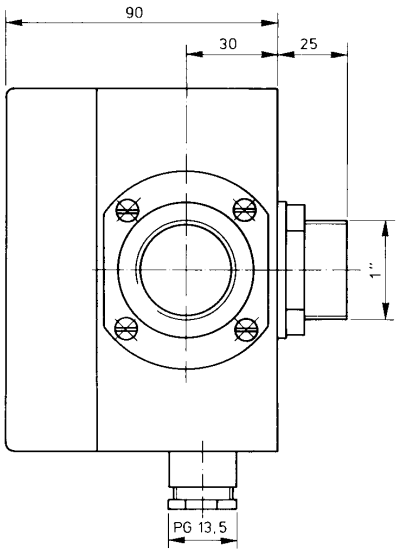
The individual components, such as the pressure monitor, solenoid valve and enclosure, generally require no maintenance at all. They should be checked periodically for proper operation. As a preventive measure, it is advisable to carry out a periodic visual inspection of seals, inpection windows and cable bushings.

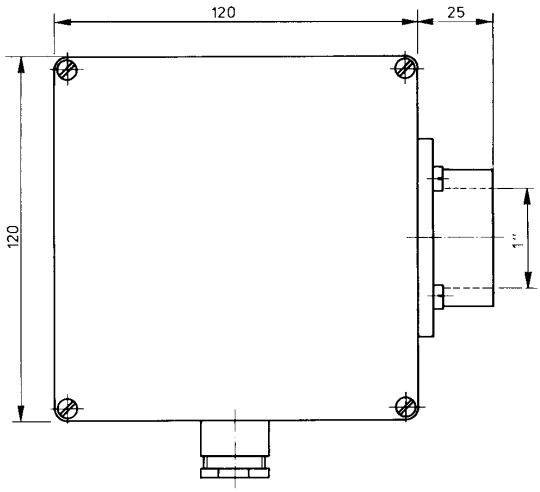
### *Alarming with a NAMUR- Relay*

The conditions of the pressure switches of the DW812 will be monitored by a relay according DIN 19234 (NAMUR).
Does the relay monitors broken wire failure too please add a 10 kOhm resistance to the terminal 2 and 3 of the DW812. The alarm loop works in normally closed connection.

Install the alarm actor (e. g. warning lamp) on a place where an alarm can be noticed very soon.

## *Dimensions:*





Gönnheimer Elektronic GmbH
http://www.goennheimer.de Email: info@goennheimer.de
Zertifiziertes Qualitäts-Managemantsystem nach DIN EN ISO 9001
Dr.-Julius-Leber-Straße 2
67433 Neustadt/Weinstraße
Postfach 10 05 07
67405 Neustadt
phone: +49 (6321) 49919- 0
fax: +49 (6321) 49919 - 41