Pressure transmitter series with HART protocol, Type Series PASCAL

PASCAL Ci **Pressure Transmitter**

PASCAL $^{\Delta p}$ **Differential Pressure Transmitter**

PASCAL ^{LEVEL} **Level Transmitter**

Features

- measured value request and parametrising with PC
- simultaneous analogue measured value transmission and digital communication
- standard 4...20 mA process signal
- HART compatible with uniform, open telegram structure
- secure galvanic isolation for ex-area possible
- measured value and operating control in the unit
- local operation in the ex sector

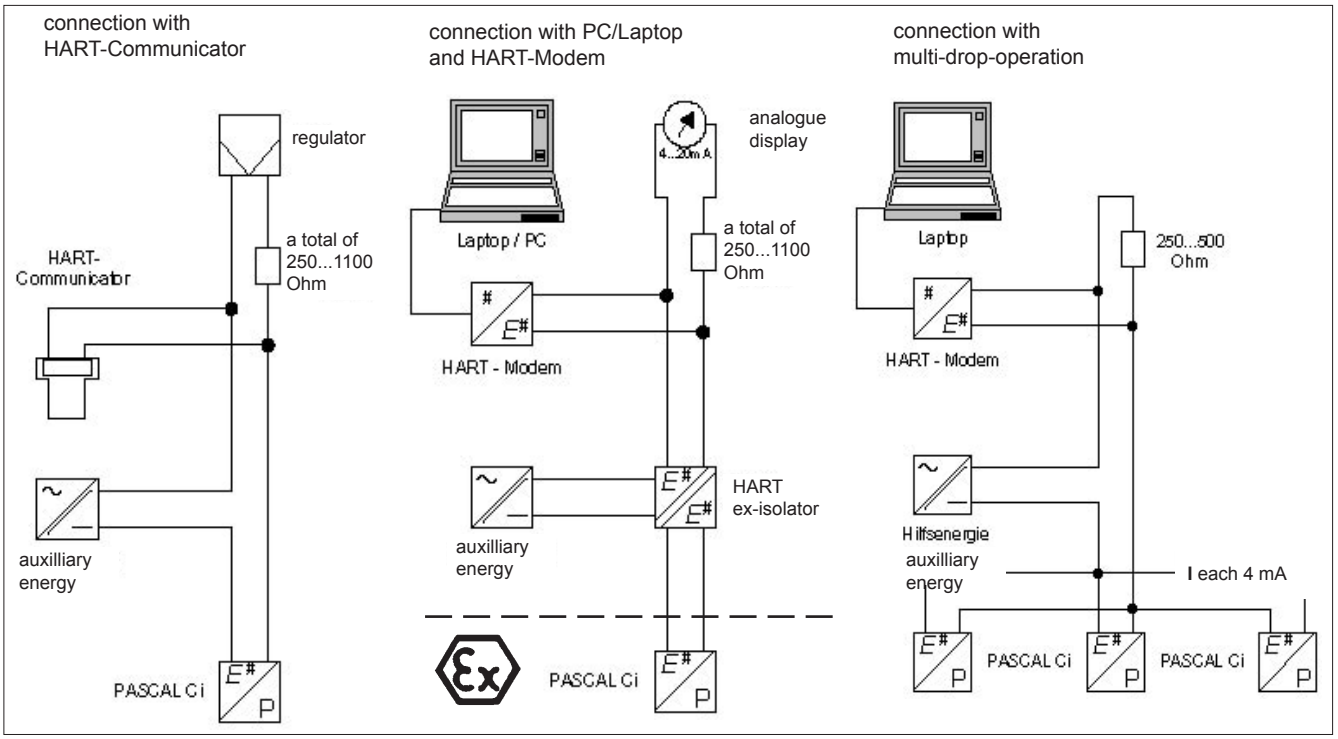
Application

All settings for this range of transmitters can be controlled or edited with a PC or HART communicator. In addition, the text-oriented operator guidance system allows simple, local adjustment and parametrising on a graphic display, also in the Ex sector. The simultaneous analogue /digital communication allows the use of analogue displays, recorders and regulators at the same time as digital communications with transmitter. Compatibility with existing equipment remains unimpaired. The devices can be operated in a point-to-point constellation. Multidrop network (bus operation) is also possible. This transmission technology allows the PASCAL to be used in applications in ex-areas as a 2-wire transmitter in EEx i version with HART-compliant ex-isolation amplifiers.

Design and Function

The signals required for communication are overlaid on the output current in accordance with the frequency-shift-keying technique (FSK, Bell 202). The analog output signal is not impaired by the communication. A PC/laptop with HART modem and COMLINE.HART software is connected for parameterization. A HART communicator may be connected directly. All measured values and all PASCAL device settings may be logged, recorded and archived through this interface. Some parameters (for example: measuring range and so on) are protected by password and can only be altered by removing the password protection from the device. The uniform program structure of HART protocol 5.1 allows further HART devices to be connected together, without causing any interference between the devices.

Functional schematic diagram



Techn. Data

Data transmission
analogue: 4...20 mA
digital: FSK (Frequency Shift Keying)
acc.to Bell-202 communications standard

Version with logging
HART, version 5.1

Transmission rate
max.: 2 measured values per second
typ.: 1 measured value per second

Load
for communication with
HART-communicator: 230...1100 Ohm
HART-modem: 230... 500 Ohm
typ.: 250 Ohm

Cable length
single-screened twisted conductors pairs
- up to 1500 m 0.2 mm²
- up to 3000 m 0.5 mm²

Ex isolation
Ex isolating stages must e capable of transmitting signal frequencies in both directions and permeable for HART signals

Modem
HART modem for RS 232 port
art.no.: MC 1020

Software for PC/Laptop
COMLINE.HART (16 Bit) for
Windows 3.1x
Windows 95
Windows 98
Windows NT 4.0
Menu guidance based on VDI/VDE 2187
art.no.: MC 1010

Record measured values
1 header with 37 bytes
for each recording interval
1 data record comprising 25 bytes
+ any error messages
+ any status messages

Hardware for COMLINE.HART
CPU: PC/laptop (higher than 486/66 MHz)
Memory: 8 MB RAM
Memory: 4 MB (hard disk)
Graphics card: VGA (800x600)
Ports: serial port (RE232)

Adjustable transmitter parameters/ functions
lower and upper range limits
electrical damping
Display/reset min./max. values
output function
physical unit
measuring-circuit test
alarm state
current trimming
trimming
table function
display factory data
reload factory trimming
select language
LC screen %, mA, bar graph, temperature
operating menus
measuring-point number
measuring-point description
message (stored in RAM)

Order details

Description	order code
HART-modem for RS 232 port	**MC 1020**
software COMLINE.HART	**MC 1010**

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