PROGRAMMABLE TRANSDUCER OF D.C. CURRENT AND D.C. VOLTAGE

P11H

22.5 × 120 × 100 mm

CE

ISO9001

2. INSTALLATION

The P11H transducer is designed to be installed on a 35 mm DIN rail acc. DIN EN 50 022-35. On the external side of the transducer there are screw or self-locking terminal strips enabling the connection of 2.5 mm^2 external leads.

The lighted diode situated on the upper front of the transducer signals the connection of this transducer to the mains.

EXTERNAL AND ASSEMBLY DIMENSIONS
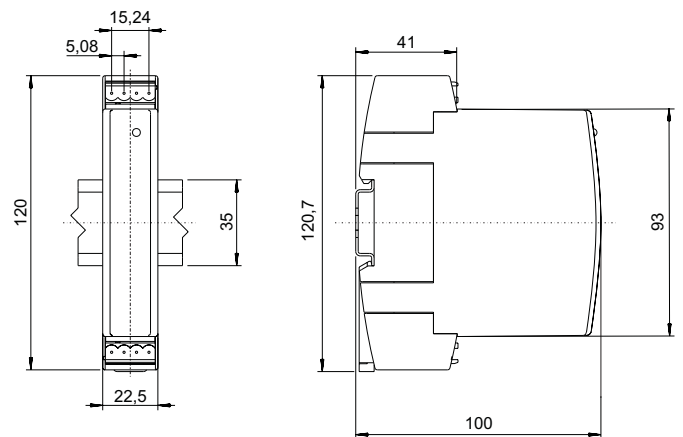
Fig.2 Overall dimensions and fixing way of the P11H transducer

1. APPLICATION

The P11H programmable transducer is destined to the conversion of d.c. voltage ± 100 V, ± 600 V and d.c. current ± 1A, ± 5A into a current signal or voltage standard signal.

The output is galvanically isolated from the input signal and the supply.

The P11H transducer is offered in two basic versions:

● P11H-1, with programmed parameters by the producer acc. the ordered execution code.

● P11H-2, with programmed parameters by the producer acc. the ordered execution code and with the possibility to change the parameters by the user by means of a computer through the PD11 programmer.

The PD11 programmer is a universal device serving to programme all the P11 and P12 series.

The P11H-2 transducer realises also following functions:

– conversion of the measured value into an optional output signal on the base of the individual linear characteristic.

– store of maximal and minimal values.

– programming of the measurement averaging time.

– blocking of the parameter introduction by means of a password.

Using the PD11 programmer, one can read out in any time from the P11H-2 transducer:

– the measured value,

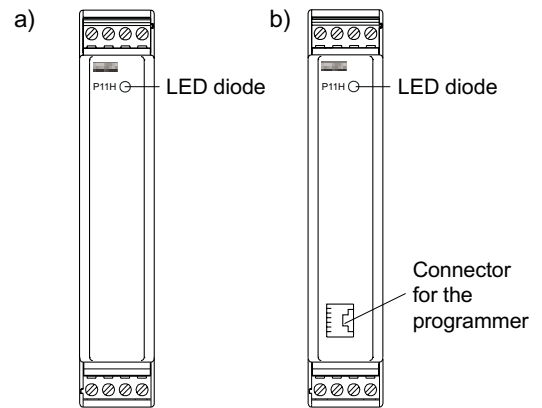– the maximal and minimal value, the signal on the analogue output in percentage of the range

3. DIAGRAMS OF EXTERNAL CONNECTIONS

The P11H transducer has two sockets of terminal strips and two connectors are included, a screw plug or a self-locking plug depending on the chosen type by the user in the order code.

The fig.3 shows the connection way of external signals.

Measured signal	± 100 V	± 600 V	± 1 A	± 5 A
Connection way	Supply $\sim$ Output + - 6 7 8 9 **P11H** 1 2 3 4 GND ± 100 V	Supply $\sim$ Output + - 6 7 8 9 **P11H** 1 2 3 4 GND ± 600 V	Supply $\sim$ Output + - 6 7 8 9 **P11H** 1 2 3 4 ± 1 A GND	Supply $\sim$ Output + - 6 7 8 9 **P11H** 1 2 3 4 ± 5 A GND

Fig. 3 Description of terminal strips of the P11H transducers.

The P11H-1 transducer works with programmed parameters acc. the execution code and there is no possibility to change these parameters.
In case of P11H-2 transducers, there is the possibility to change these parameters by means of a PD11 programmer and a computer.
The way of the P11H-2 transducer connection to the computer is shown below:
The programming of parameters is possible after the introduction of the right password.
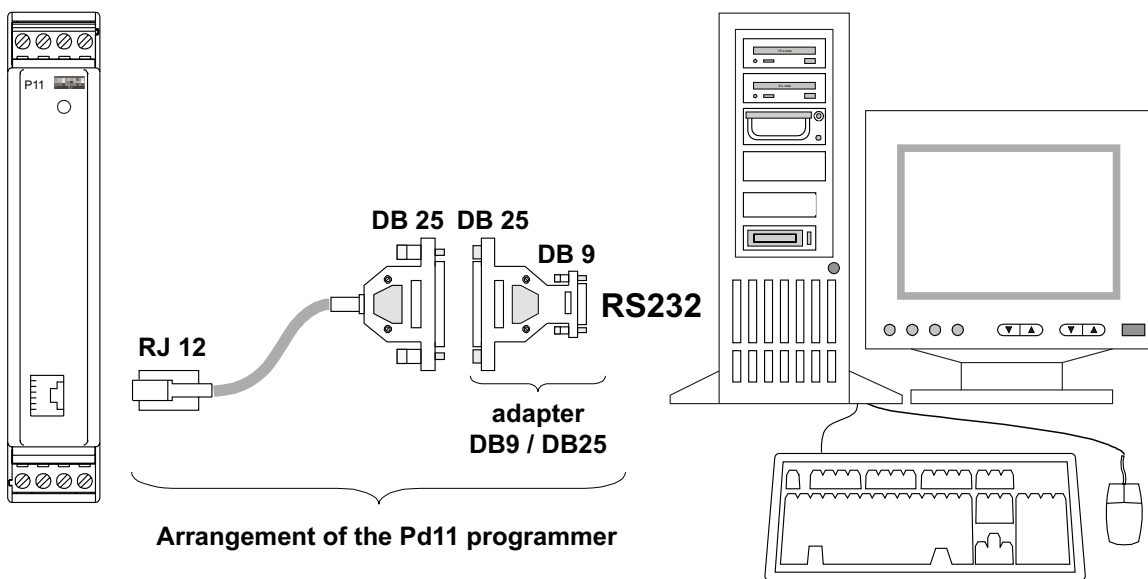
4. CHANGE OF PARAMETERS IN THE P11H-2 TRANSDUCER

Fig.4 Connection way of the P11H-2 transducer with a computer.

5. TECHNICAL DATA

Basic parameters:

- input signals:

-100... +100 V	input resistance > 3.4 MΩ
-600... +600 V	input resistance > 3.4 MΩ
-1... +1 A	input resistance = 20 mΩ ±10%
-5... +5 A	input resistance = 20 mΩ ±10%

- analogue output galvanically isolated
  with a resolution 0.01% of the range

- current programmable 0/4...20 mA	load resistance ≤ 500 Ω
- voltage programmable 0...10 V	load resistance ≥ 500 Ω
- accuracy class	0.2
	minimal subrange in P11H-2: 4 times smaller than the full range

- additional error from the
  ambient temperature change   ± (0.1% of the range/10 K)

- conversion time:

- P11H-1	< 200 ms
- P11H-2	min 200 ms (averaging time min 100 ms + output response time 100 ms)

- power input	≤ 3 VA
- preheating time of the transducer	10 min.

Nominal operating conditions:

- supply voltage depending
  on the execution code   85...<u>230</u>...250 V a.c./d.c.
  20...<u>24</u>...40 V a.c./d.c.

- frequency of the supply
  a.c. voltage   40...<u>50</u>...440 Hz

- ambient temperature	-25...<u>23</u>...55°C
- storage temperature	-25°C ...+85°C
- air relative humidity	< 95% (condensation inadmissible)
- working position	assembling on a 35 mm DIN rail

Voltage overload:

- of short duration (3 s)	2*Un (< 1000 V)
- long-lasting	20%

Current overload:

- of short duration (3 s)	10 In
- long-lasting	20%

Communication parameters with the computer (only in P11H-2):

- interface:	RS232, 8N1 mode
- data bit	8
- even parity	none
- stop bit	1
- baud rate	9600 bit/s
- flow control	none

Ensured protection degree:

- through the casing	IP 60
- from the terminal side	IP 20

Dimensions	22.5 × 100 × 120 mm
Weight	125 g
Fixing	on a 35 mm DIN rail
Current decay immunity	acc. EN 50082-2

Electromagnetic compatibility:

- immunity	EN 50082-2 (1997)
- emission	EN 50081-2 (1996)

Security requirements acc. IEC 61010-1:

- installation category	III
- pollution level	2
- maximal working voltage in relation to earth	600 V

6. EXECUTION CODES

Execution codes of the P11H transducer

TRANSDSUCER	P11H	X	XX	X	X	X	XX	X

Kind of transducer:
programmed by the producer **1**
programmed by the user **2**

Input signal
(in the P11H-2 execution all input signals
are accessible, introduce any optional code)**:**
-100... +100 V **00**
-600... +600 V **01**
-1... +1 A **02**
-5... +5 A **03**
on order ....**XX**

Output signal:
voltage, 0... 10 V **1**
current, 0... 20 mA **2**
current, 4... 20 mA **3**
current, 0... 5 mA **4**
on order **9**

Supply:
85... 250 V a.c./d.c. **1**
20... 40 V a.c./ d.c. **2**

Kind of terminals:
socket - screw plug **0**
socket - self-locking plug **1**

Execution:
standard **00**
custom-made* ....**XX**

Acceptance tests:
without a quality inspection certificate **0**
with a quality inspection certificate **1**
acc. user's agreement** ....**X**

* After agreeing by the producer
** The producer will settle the execution code number

Coding example:

The **P11H-1-02-1-1-0-00-0** code means: the execution of a P11H transducer programmed by the producer without the possibility to re-programme it by the user, with an input signal: -1 A ...1 A, output voltage signal: 0...10 V, supply voltage: 85...250 V a.c./d.c., with a socket-screw plug, standard execution, without a quality inspection certificate.