

Technical Data (continued)

Relay data

potential-free break contact as changeover
max. 250 V AC / 500 VA / 4 A
max. 250 V DC / 50 W / 0.25 A

Ex-protection

input circuit intrinsically safe
ex-protection type [Ex ib] II C
PTB no. Ex-83/2095X
 $U \leq 19 \text{ V}$; $I \leq 1 \text{ mA}$; $L \leq 10 \text{ mH}$; $C \leq 39 \text{ nF}$

Special design

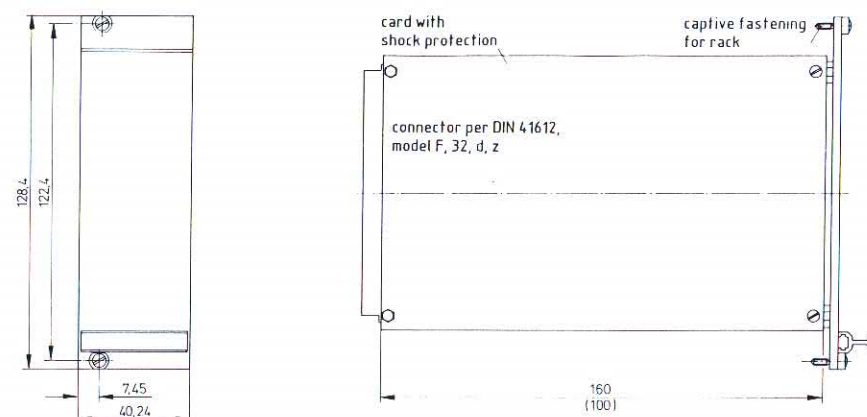
- 19" module with terminal adapter

All tolerance values are based on respective full scale values.

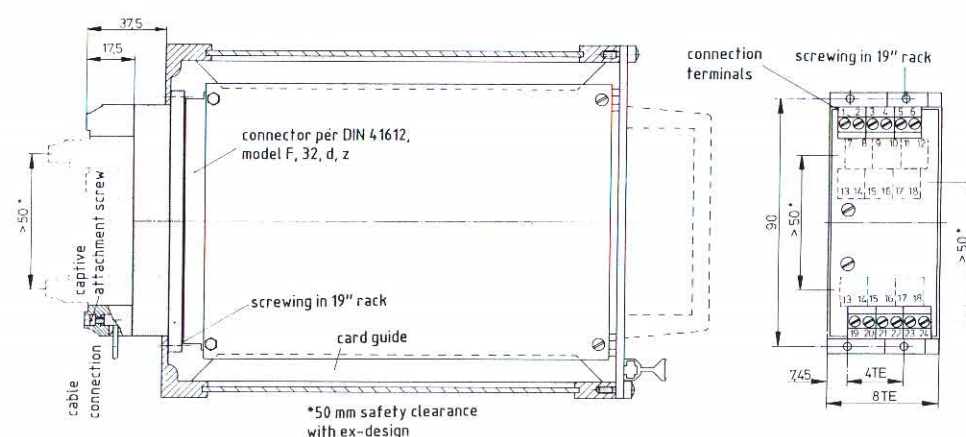
Information on other models upon request or see order details

Dimensions

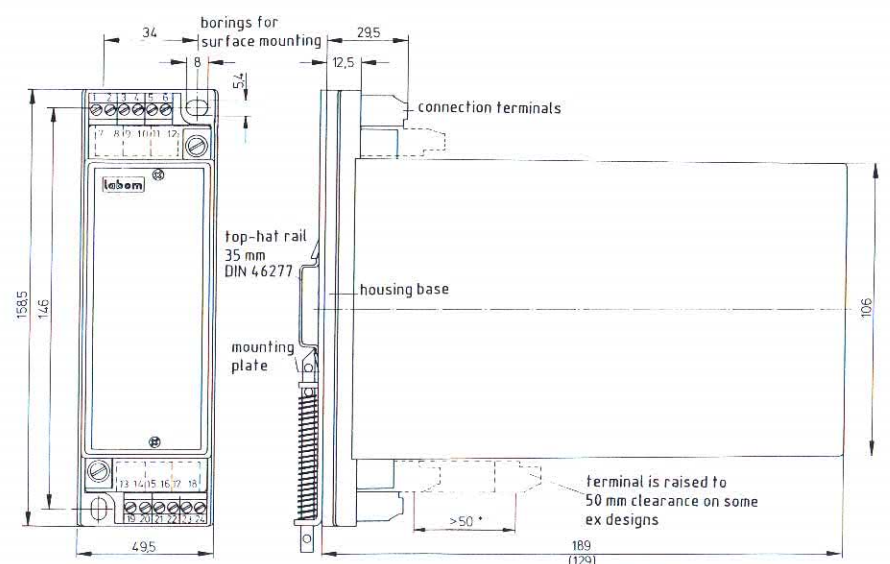
19" module
with Eurocard
100 x 160 mm²



LABOM terminal adapter
for 19" rack

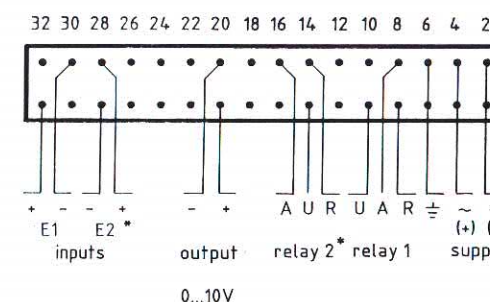


LABOM single housing
for Eurocard
100 x 160 mm²

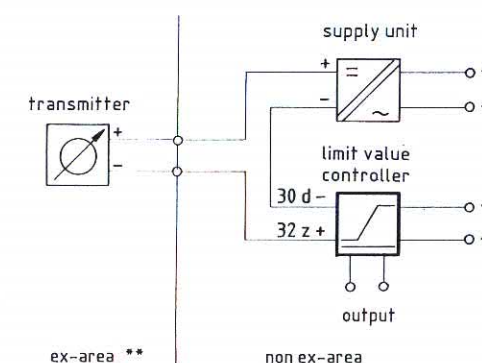


Connection diagram

Socket connector DIN 41612 F, d, z for 19" module model



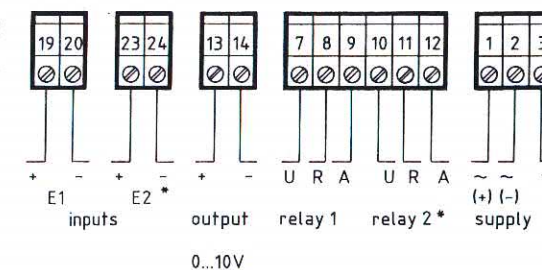
transmitter connection 2-wire-circuitry



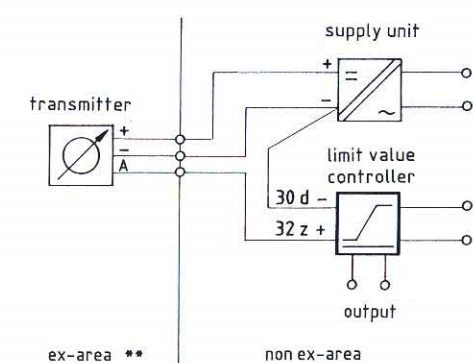
*optional **Input circuit limit value controller and output circuit supply

Designations in brackets for DC supply
More comprehensive technical instructions are available upon request

Terminal strip for Labom single housing model
and for Labom terminal adapter



transmitter connection 3-wire-circuitry



U — R
— A
relay contacts

Mounting and operating instructions

The standard delivery is a 19" module with Eurocard 100 x 160 mm². Alternatively, the instruments can be delivered in the LABOM single housing. Thus, the same electronic components are available in the 19" rack as in the single housing for surface and snap-on rail mounting.

Rack mounting: A fully equipped 19" rack takes LABOM 19" modules with a total width of the front panels of max. 84 TE (e.g. 10 modules à 8 TE and 1 module à 4 TE).

The backs of the socket connectors are usually wire wrapped or soldered. The LABOM terminal adapter is a special connection aid. Terminal strips at the rear or the rack are available when using this adapter.

Mounting of LABOM single housing: Electronic components in the LABOM single housing are suitable for surface and snap-on rail mounting on 35 mm top-hat rail. The top part of the housing can be removed (2 captive screws) in order to wire the connection terminals. Only the terminal board is mounted and wired. After wiring the terminals, the top part of the housing (incl. Eurocard) is plugged in and screwed tight. We recommend a housing clearance of approx. 10 mm in series mounting with high ambient temperatures.

Ambient temperature: The heat generated by the circuits in the instruments requires adequate ventilation for high packing densities. The arrangement of the cards when mounting in racks facilitates a vertical circulation. The LABOM single housing is so designed that ventilation zones are created in series mounting. Generally, the proximate ambient temperatures should not exceed the values given in the data sheet.

Adjusting instructions: The instruments are adjusted at the factory. Adjusting facilities are sealed after passing final testing. Alterations to the adjustments impair instrument operation and make the guarantee null and void. Adjusting potentiometers resp. pushbuttons, required for operation, are to be found on the instrument front panel. Technical instructions are available for changing the measuring range and the type of connection.

Ex-proof design: All ex-proof instruments fulfil the EC ex guidelines, resp. the ordinance on electrical equipment in hazardous areas (Ex V). Some of the current standards in force are: VDE 0165, 0170, 0171. Current standards and regulations must be followed when installing and commissioning ex-proof devices. Modifications to lines, connections and components (also fuses) destroy the ex-proofing.

19" modules with ex-protection are optionally delivered with the LABOM terminal adapter (DBGM protected). This is then a constituent part of the instrument, i.e. the instrument may only be used with the adapter. The adapter is PTB tested. It realizes terminal clearance of $\geq 50 \text{ mm}$ between intrinsically safe and non intrinsically safe circuits.

The regulations (VDE, EN) regarding the clearances between external connecting parts, mounting regulations and, if necessary, acceptance recommendations, applicable when constructing intrinsically safe circuits are to be observed with operation without the LABOM terminal adapter.

Order Details

- please give additional specifications for models not listed -

Limit value controller for standard signals	PD11		
19" module with eurocard, front width 8 TE (40 mm)	1		
single housing 100 x 160 mm ²	4		
design:	0		
- standard	1		
- with ex-protection			
setting of limit values:		A2	
- analog via test output		A1	
- digital, 0...99 %		0	
hysteresis:		1	
- 0.5 % of e.v.			
- analog adjustment, 0.5...20 % of e.v.		1	
number of limit values:		2	
- one limit value			
- two limit values		1	
supply:		2	
- 220 V AC, $\pm 10\%$, 50...60 Hz, approx. 2 VA		3	
- 110 V AC, $\pm 10\%$, 50...60 Hz, approx. 2 VA		6	
- 24 V AC, $\pm 10\%$, 50...60 Hz, approx. 2 VA			
- 24 V DC (22...30 V), galv. isolated, approx. 2 VA			
with one limit value:			C1
- min. alarm ¹			C2
- max. alarm ²			C11
with two limit values:			C22
- 2x min. alarm ¹			C12
- 2x max. alarm ²			
- 1x min. alarm ¹ / 1x max. alarm ²			
mode of input signal:			E1
- 0...20 mA			E2
- 4...20 mA			E3
- 0...10 V			E4
- 2...10 V			E5
- 0...5 V			E11
two inputs:			E12
- addition, 0...20 mA			E21
- addition, 4...20 mA			E22
- subtraction, 0...20 mA			
- subtraction, 4...20 mA			
additional features (to be indicated in case of need, only):			
mounting:			V2
- eurocard with terminal adapter			V4
- snap-on rail mounting for single housing			
Order Code:			
Example:	PD1140	- A1126	- C12 - E22

¹ Relay is deenergized when there is a drop below the limit value

² Relay is deenergized when limit value is exceeded

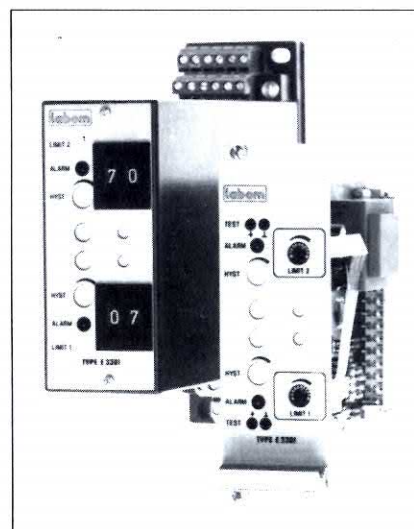
labom
MEASUREMENT TECHNOLOGY

**LIMIT VALUE CONTROLLER
FOR STANDARD SIGNALS**

**TYPE SERIES
PD11**

Design Features

- Compact design on Eurocard, front width 8 TE (40.64 mm)
- Mounting in rack or in LABOM single housing
- 1 or 2 limit values
- Input: different load-independent standard signals
- Output: 0...10 V
- Second input addition or subtraction (optional)
- Explosion proofing: [Ex ib] IIC (optional)



Application

Limit value controllers are used for signalling critical process variable values. At the same time, actuators can be controlled via relay contacts. This limit value controller is suitable for connection to current and voltage standard signals. A measured value converter for adaption to special signals such as 5...15 mA is integrated in the input stage. The instrument can be delivered with one or two limit values. One relay with a changeover contact is available per limit value. The relay is deenergized upon alarm or power failure.

Design and Function

The limit value controller can be equipped with a second input E2, which is optionally evaluated as adding to or subtracting from E1. The resulting signal is standardized in the input stage. A comparator compares the signal with a variable reference value. An alarm is activated when there is a drop below the set switch point or when it is exceeded, depending on the alarm mode. The alarm mode can be selected for every limit value. The switch point can be adjusted either per test output or digitally.

Technical Data

19" module model

Eurocard 100 x 160 mm²
front panel width: 8 TE = 40.64 mm
front panel material: Macrolon 9410
flame protection: UL 94 VO
colour: RAL 7032

LABOM single housing model

protection type: IP 20
material: ABS/HH
colour: RAL 7011
front panel width: 8 TE = 40.64 mm

Mounting (LABOM single housing)

standard: surface mounting
upon request: snap-on rail mounting on 35 mm top-hat rail, DIN 46277

Connections

with 19" module model

connectors per DIN 41612,
model F, 32, d, z
other connectors upon request

with LABOM single housing model

terminal strip grid 5.08

Ambient temperature

-25...+70 °C

Weight

approx. 600 g

Auxiliary power supply

built-in power supply unit, galvanically
isolated, possible voltages see order details

Signal input

see order details,
other signals upon request

2nd signal input

optional addition to 1st signal input
signal evaluation halving
(e.g. E1 = 0...20 mA, E2 = 0...20 mA,
A = 0...20 mA/0...10 V)
or subtraction from 1st signal input
(E1-E2 ≥ 0 , max. input voltage per input: 10 V
with ex-protection: 8 V)

Input resistance

with current input: $R_i = 50 \text{ Ohm}$
with voltage input: $R_i \geq 200 \text{ KOhm}$

Signal output

0...10 V ($R_a \geq 2 \text{ kOhm}$)

Test output

0...1 V ($R_a \geq 5 \text{ kOhm}$), not with digitally
adjustable limit values (with ex-protection for
connection to ground and energy-free
indicators only)

Limit values

1 or 2 limit values optional, each as max. alarm
or min. alarm, see order details

Hysteresis

standard: 0.5 % f.s.
upon request: 0.5...20 % f.s. adjustable
max. alarm: neg. hysteresis
min. alarm: pos. hysteresis

Switch point setting

standard: analog (test output)
upon request: digital (0...99 %)

Switch accuracy

$\pm 0.5\%$ f.s.

Reproducibility of the switch point

$\pm 0.5\%$ f.s.

Alarm modes

min. alarm: alarm upon drop below limit
value
max. alarm: alarm when limit value is
exceeded

Alarm indication

LED (red, 3 mm) and relay