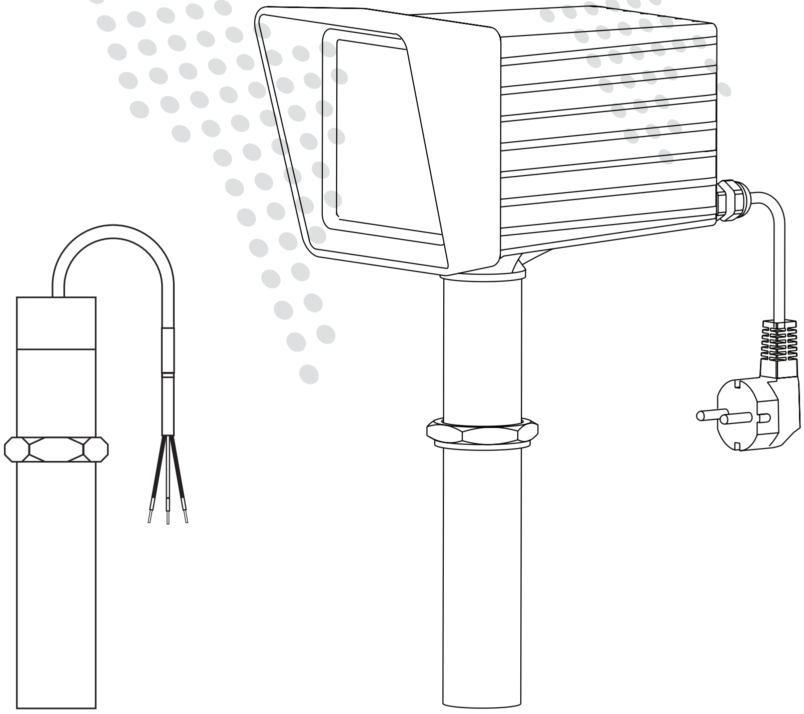
Sensor control
Gesellschaft für Sensorik und Automation mbH

OPERATING MANUAL
ELECTRONIC PLASTOMETER



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SAFETY INSTRUCTIONS

THE FOLLOWING SAFETY INSTRUCTIONS ARE INTENDED TO PREVENT PERSONAL INJURIES AND MATERIAL DAMAGE

Never install or operate damaged products!

Unless expressly provided for, the following applications are prohibited:

- Use in potentially explosive areas
- Use in environments with harmful gases, vapours, oils etc.

Danger due to high material pressure!

- Ensure that the process connections are pressure-free before loosening them.
- Be aware of potentially increased material temperatures due to the addition of steam.
- Check for correct installation and secure attachment after re-installation.

Risk of electric shock!

- Before beginning work, always switch of all power supplies leading to the device!
- Observe the currently applicable accident prevention and safety regulations for electrical equipment!

Warning! Risk of injury from improper installation!

- Electrical installation may only be carried out by authorised specialist personnel and with suitable tools!
- Improper use may lead to injuries as well as damage to the device and its surroundings.
- Electrical installation must be carried out in accordance with the relevant regulations (e.g. cable cross-sections, fuses, protective conductor connection).
- Ensure a controlled restart following any work on the system.
- Safety instructions and proper use must be strictly observed!
- Operating personnel must be familiar with and observe the contents of the operating instructions.

Protective measures!

- Ensure potential equalisation of the installation.
- Only use shielded cables for transmitting analogue signals
- Avoid laying cables near high-voltage or high-frequency cables. In case of unavoidable cable runs, keep a minimum distance from high-voltage or high-frequency cables of at least 30 cm.
- Protective measures and devices must comply with the applicable regulations.

Protect the device from electromagnetic interference and observe the applicable EMC requirements.

ELECTRONIC PLASTOMETER

OVERVIEW OF AVAILABLE VERSIONS

WITHOUT DISPLAY

① 

PLASTOMETER
PRESSURE

② 

PLASTOMETER
PRESSURE / TEMPERATURE

WITH DISPLAY

③ 

PLASTOMETER
with display
PRESSURE

④ 

PLASTOMETER
with two displays
PRESSURE / TEMPERATURE

WITH EXTERNAL DISPLAY

⑤ 

PLASTOMETER-SET
with external display
PRESSURE

⑥ 

PLASTOMETER-SET
with two external displays
PRESSURE / TEMPERATURE

	ITEM NUMBER	TYPE	DESCRIPTION
	6AELP0401 / 955 2 004	49.011-242	Pressure 0…4 bar
	6AELP0601 / 955 2 006	49.011-242	Pressure 0…6 bar
	6AELP02501 / 955 2 025	49.011-242	Pressure 0…25 bar
	6AELP02500 / 955 2 925	49.011-010	Pressure 0…25 bar (0-10V)
1	6AELP04001 / 955 2 040	49.011-242	Pressure 0…40 bar
	6AELP04000 / 955 2 940	49.011-010	Pressure 0…40 bar (0-10V)
	6AELP06001 / 955 2 060	49.011-242	Pressure 0…60 bar
	6AELP08001 / 955 2 080	49.011-242	Pressure 0…80 bar
	6AELP1001 / 955 2 100	49.011-242	Pressure 0…100 bar
	6AELP0411 / 955 2 104	49.011-242	Pressure/Temperature 0…4 bar
	6AELP0611 / 955 2 106	49.011-242	Pressure/Temperature 0…6 bar
	6AELP02511 / 955 2 250	49.011-242	Pressure/Temperature 0...25 bar
	6AELP02510 / 955 2 950	49.011-010	Pressure/Temperature 0...25 bar (0-10V)
2	6AELP04011 / 955 2 400	49.011-242	Pressure/Temperature 0…40 bar
	6AELP04010 / 955 2 960	49.011-010	Pressure/Temperature 0…40 bar (0-10V)
	6AELP06011 / 955 2 600	49.011-242	Pressure/Temperature 0…60 bar
	6AELP08011 / 955 2 800	49.011-242	Pressure/Temperature 0…80 bar
	6AELP10011 / 955 2 110	49.011-242	Pressure/Temperature 0…100 bar
3	6AELP02502 / 955 2 125	49.012-242	Pressure/1 Display 0…25 bar
	6AELP04002 / 955 2 140	49.012-242	Pressure/1 Display 0…40 bar
4	6AELP02513 / 955 2 525	49.012-242	Pressure/Temperature/2 Displays 0…25 bar
	6AELP04013 / 955 2 540	49.012-242	Pressure/Temperature/2 Displays 0…40 bar
	6AELPS102515 / 955 2 625	49.012-242	Pressure/External display/15m Control line 0…25 bar
5	6AELPS104015 / 955 2 640	49.012-242	Pressure/External display/15m Control line 0…40 bar
	6AELPS106015 / 955 2 660	49.012-242	Pressure/External display/15m Control line 0…60 bar
	6AELPS302515 / 955 2 725	49.012-242	Pressure/Temperature/2 External displays/2x 15m Control line 0…25 bar
6	6AELPS304015 / 955 2 740	49.012-242	Pressure/Temperature/2 External displays/2x 15m Control line 0…40 bar
	6AELPS306015 / 955 2 760	49.012-242	Druck/Temperature/2 External displays/2x 15m Control line 0…60 bar

Other pressure ranges on request.
Type: 49.011-242 (4-20 mA version with 2-wire connection) . Type: 49.011-010 (0-10 V version)

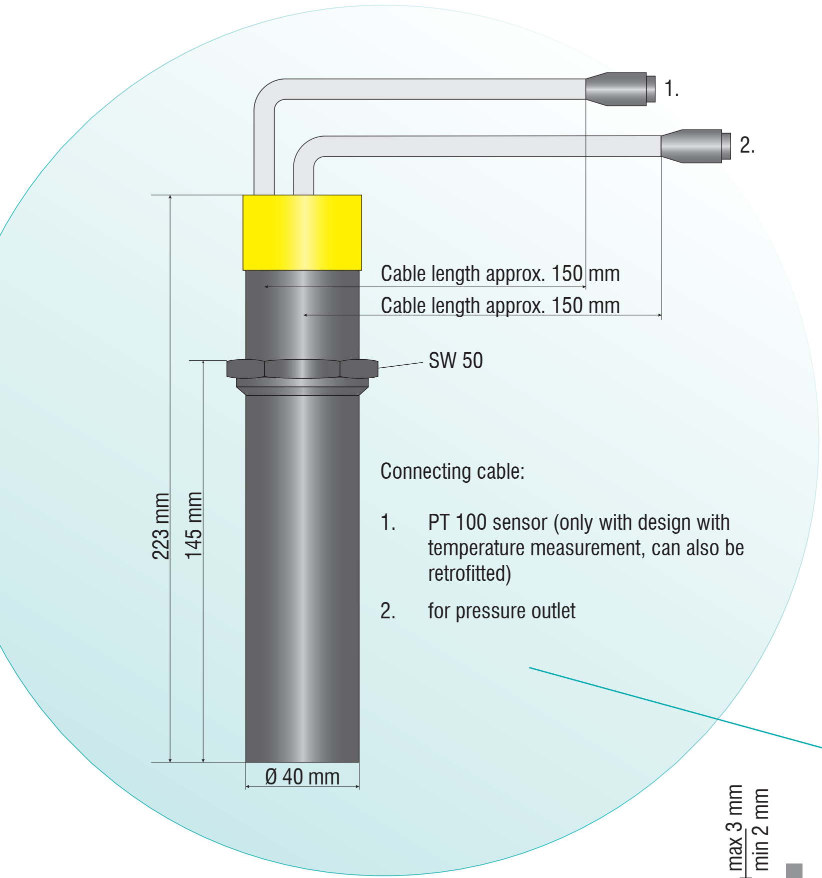
PLASTOMETER INSTALLATION

WITH OUTPUT SIGNAL OR WITH INTEGRATED DISPLAYS

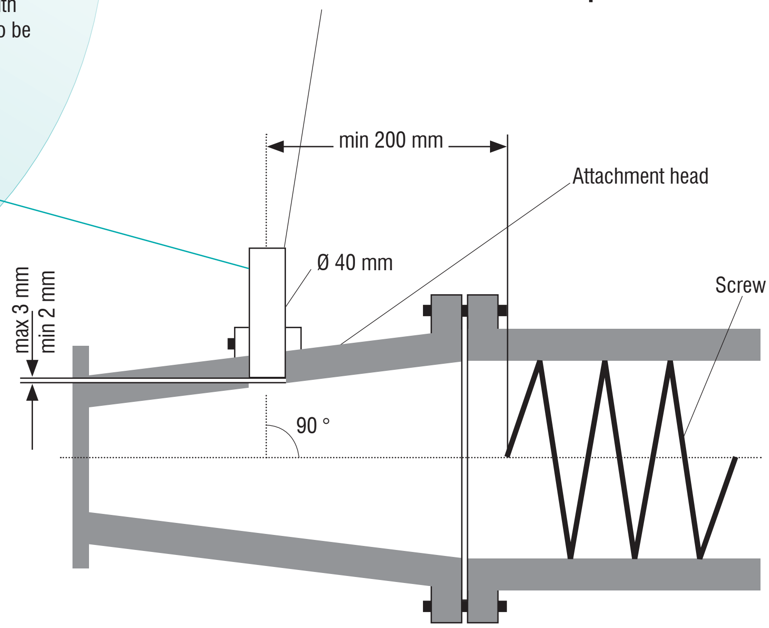
Installation recommendation up to pressure zone 40 bar

The electronic plastometer is used to measure the pressing pressure, and as an option the clay column temperature, in screw presses.

The system has a smooth shaft and a diameter of 40mm. The plastometer with output signal or with integrated displays is installed in the press head vertically from above.



Plastometer installation on the press head



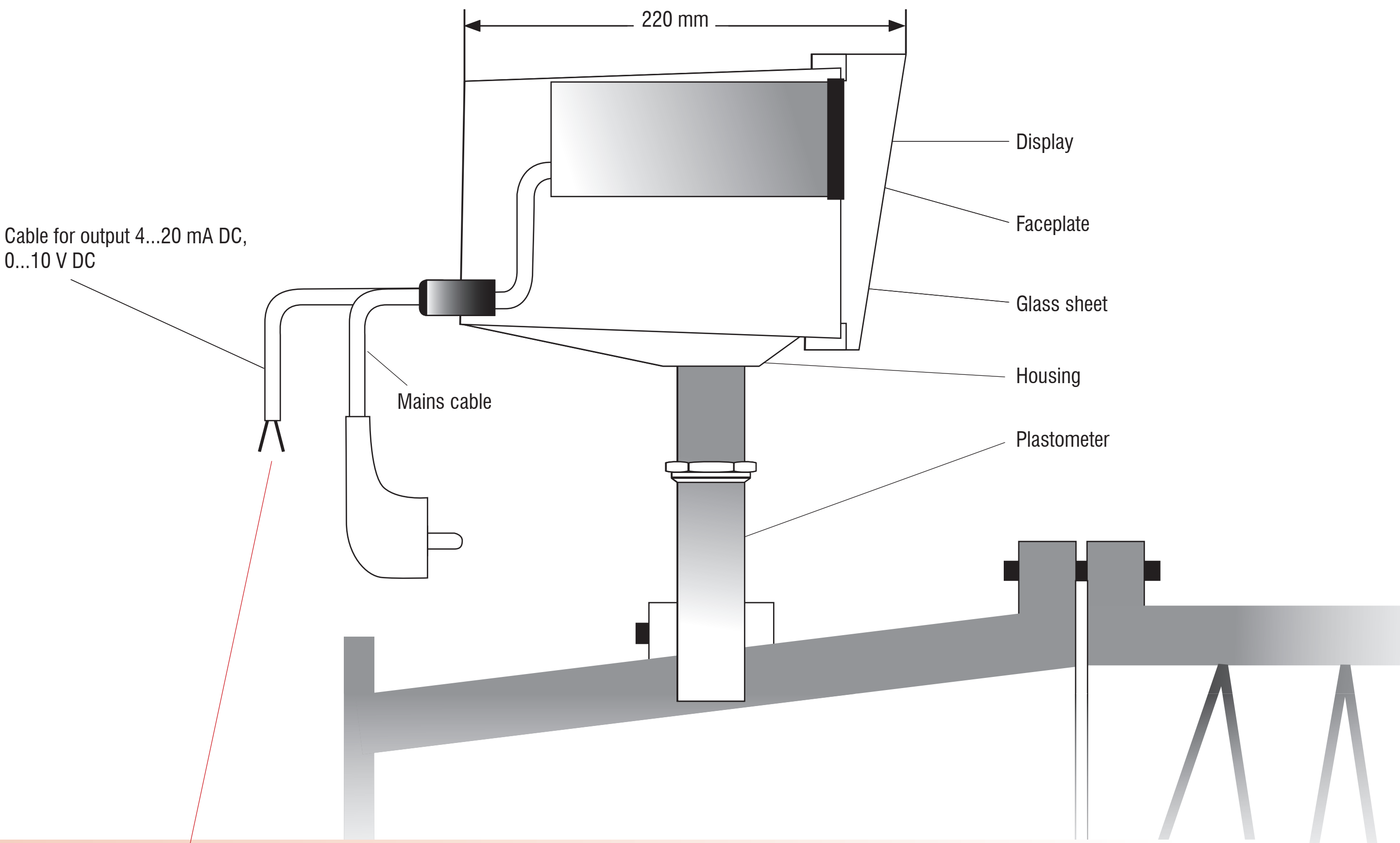
Caution

Insert the shaft of the plastometer so that it is approx. 2-3 mm into the hole at the deepest point and does not protrude into the clay column under any circumstances!

Installation in an already existing press head

You can find examples of installations with holders for the installation in an already existing press head. (see pages 11-13).

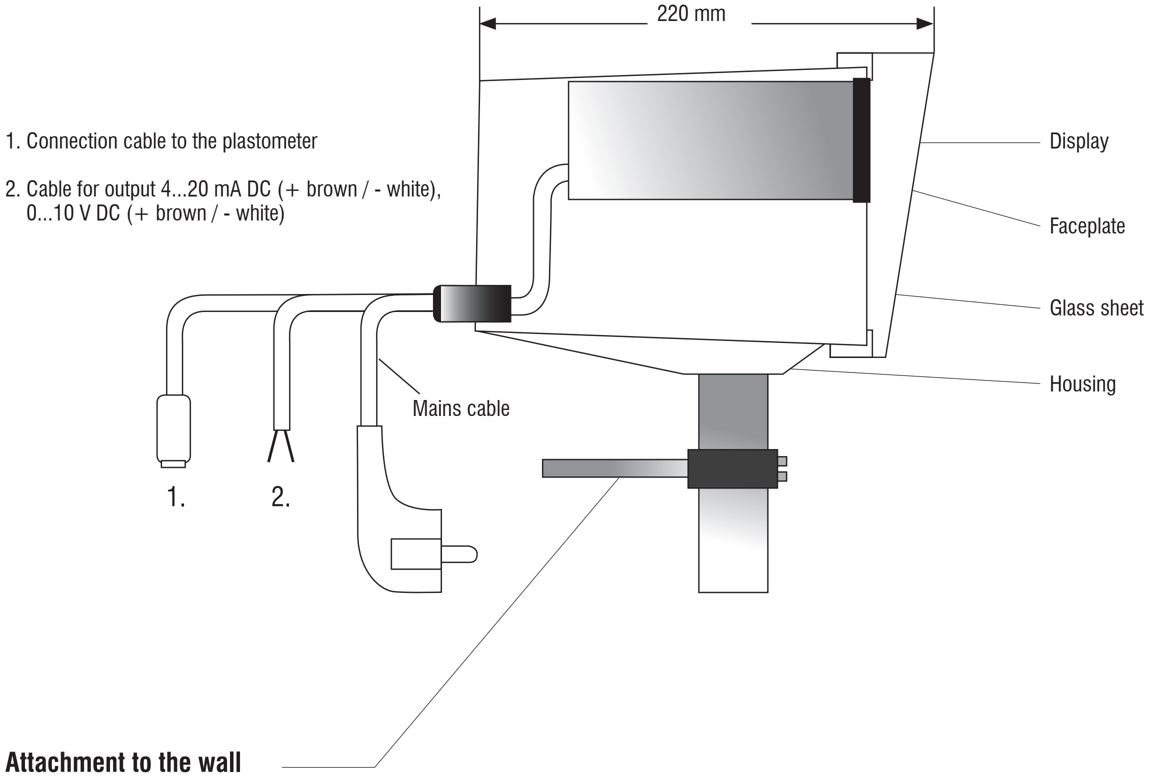
PLASTOMETER INSTALLATION WITH DISPLAY HOUSING

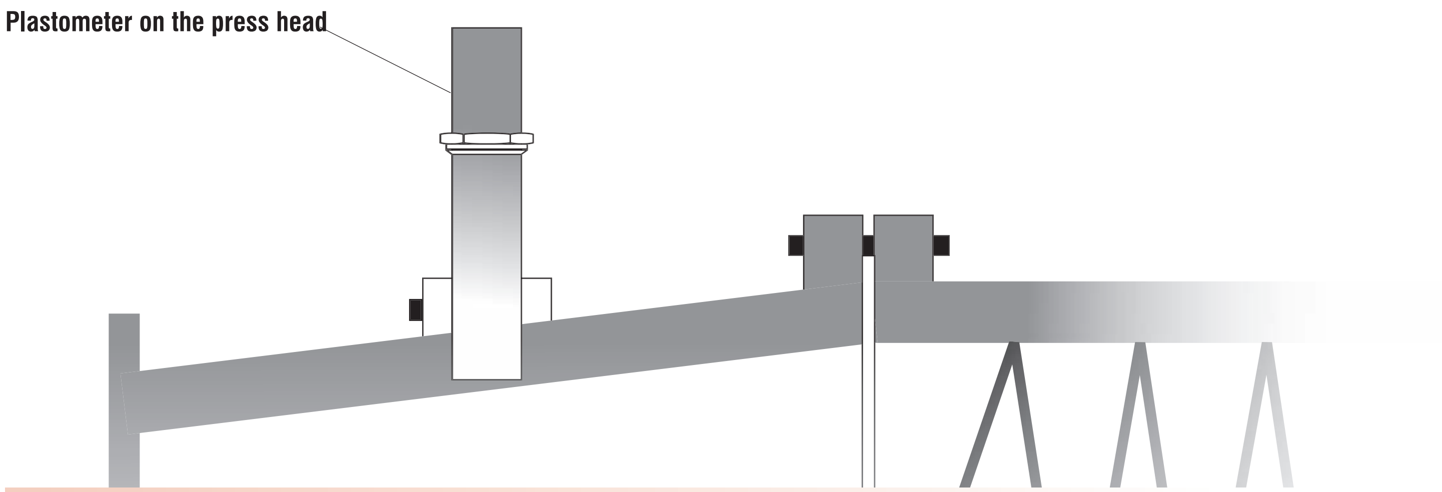


Caution

If no recorder or controller is connected, the connections of the output at 4...20 mA must be connected together! For output 0...10 V, the outputs must be safely separated from each other by means of terminals!

PLASTOMETER INSTALLATION WITH OFFSET WALL HOUSING





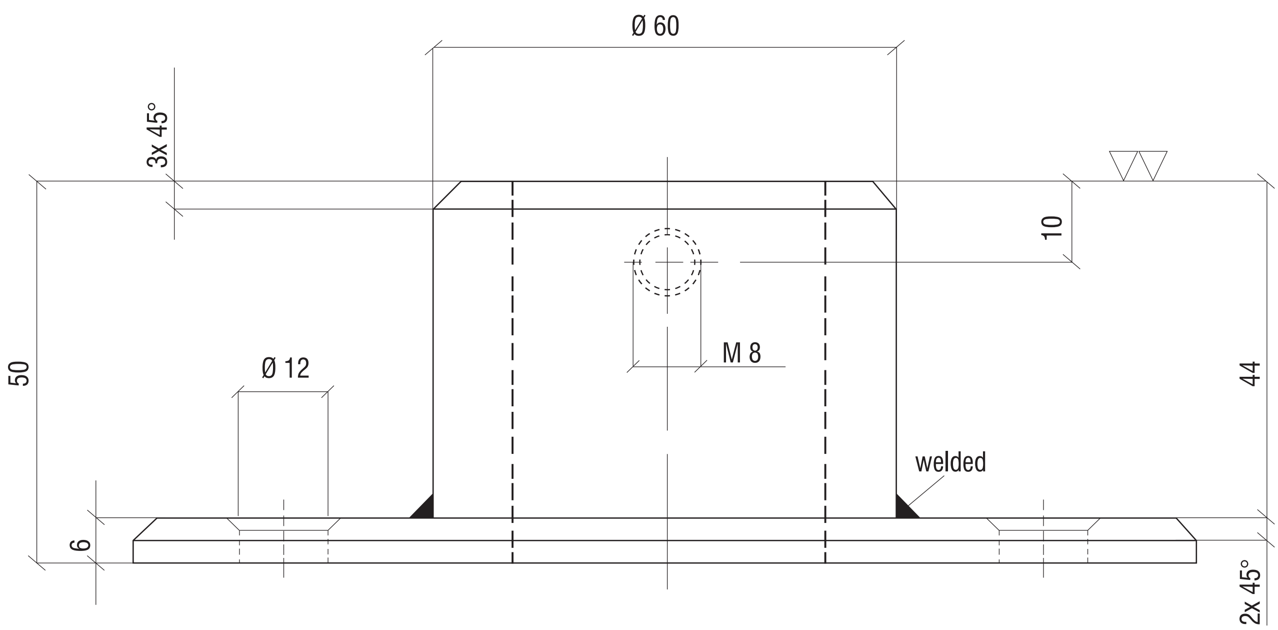
Caution

If no recorder or controller is connected,
the connections of the output 2 at 4...20 mA must be connected together!
For output 0...10 V, the outputs must be safely separated from each other by means of terminals!

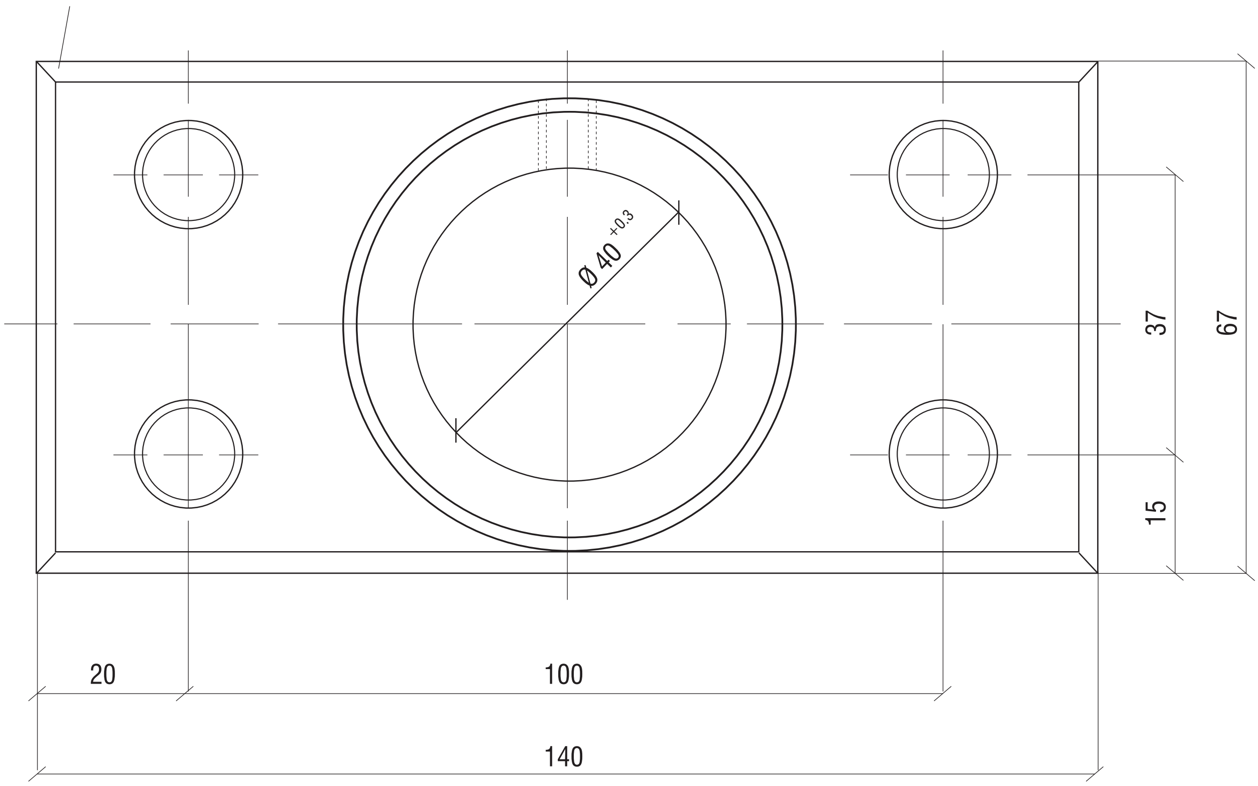
PLASTOMETER INSTALLATION
EXAMPLES PLASTOMETER HOLDERS

Example 1

Installation in an unprepared press head. This must be provided with a hole of Ø 40 (+ 0.3) mm from above for installation. The holder is placed over this hole and screwed in.



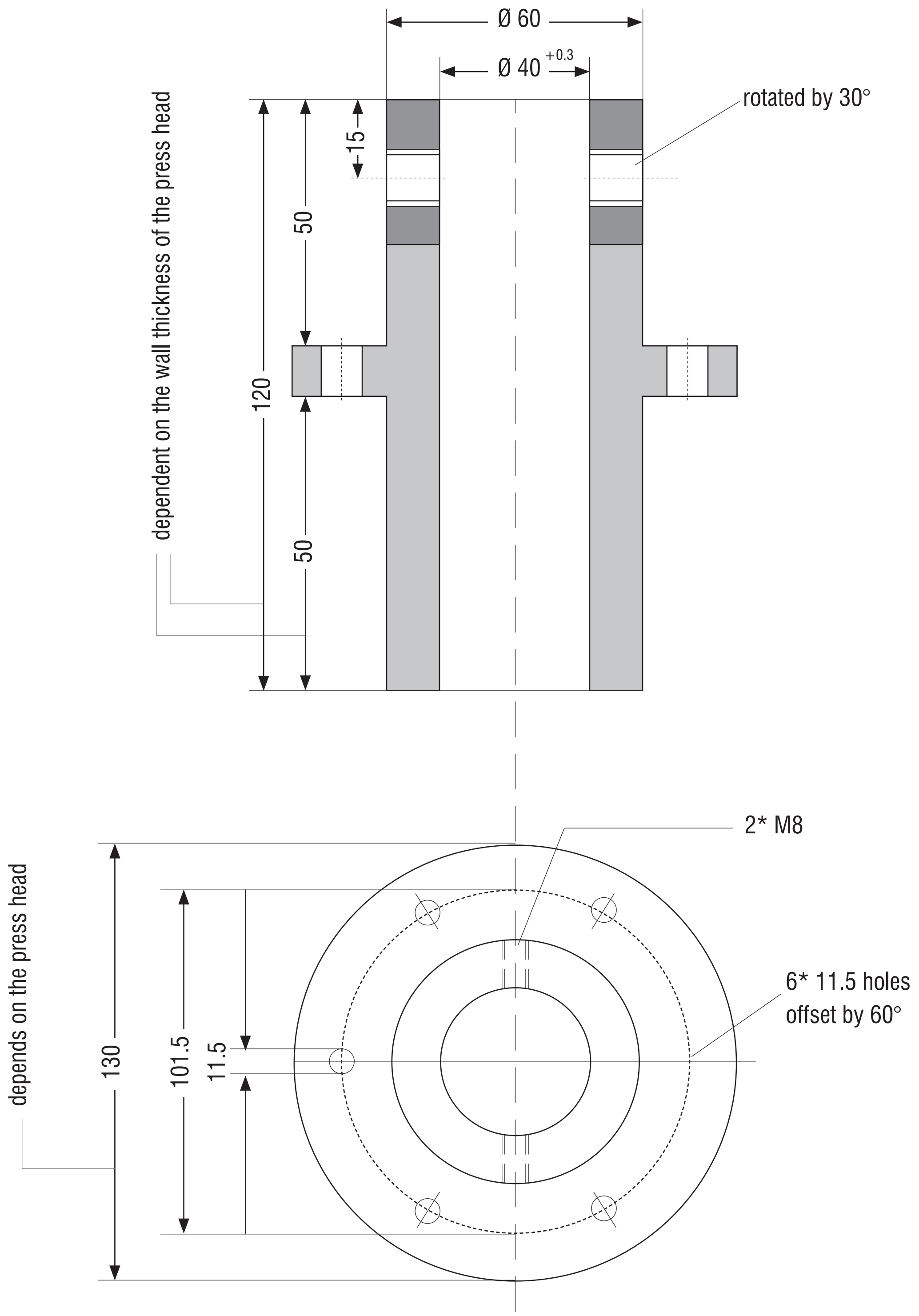
This base plate can also be manufactured as a circular plate. The circle or area depends on the press head.



The following are required: 4 hexagon head screws M 10x25 DIN 558 and 1 hexagon head screw M 8x20 DIN 558 ▽ (▽▽)

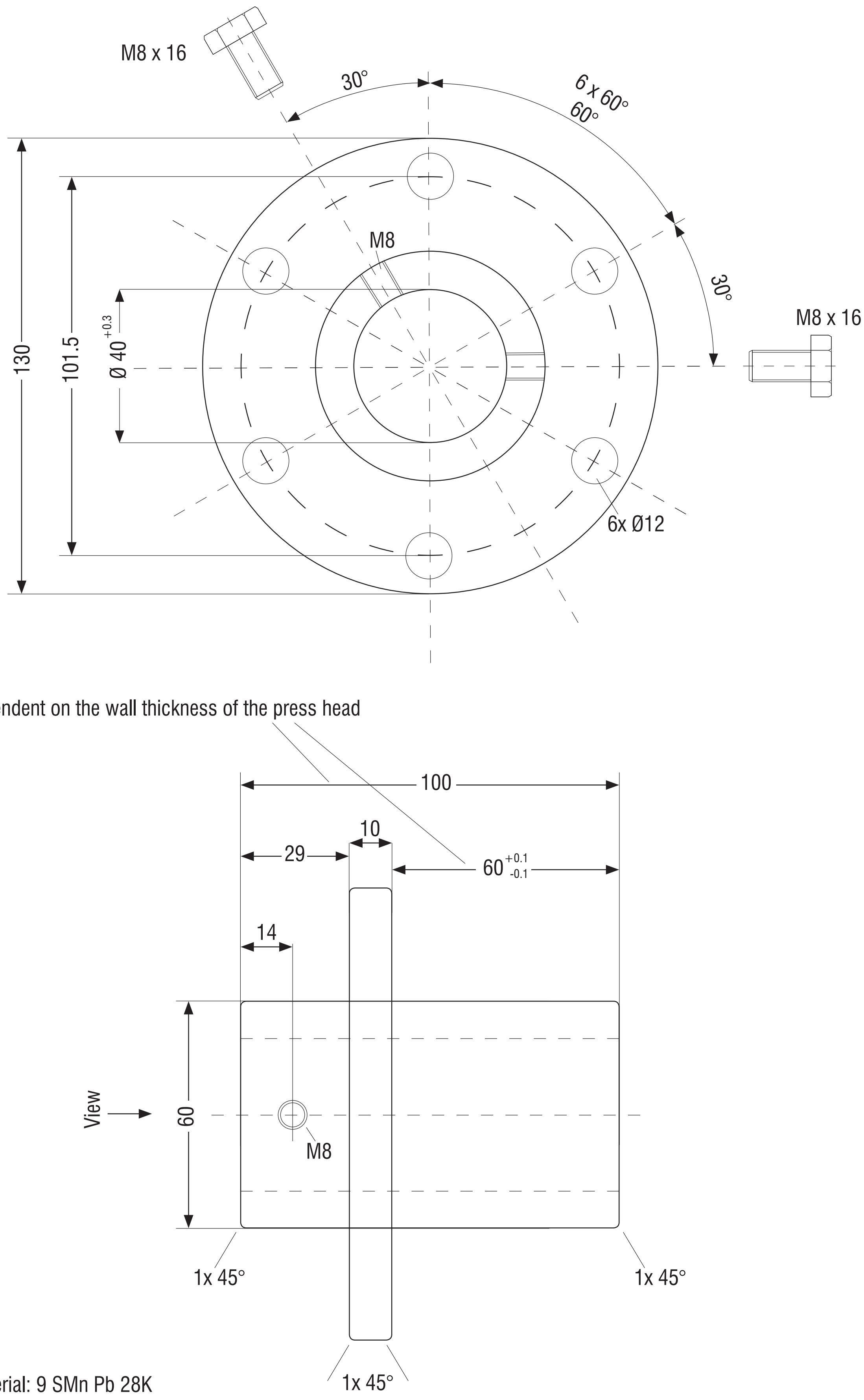
Example 2

Installation adaptor for electronic plastometer in the Morando press head
with an existing hole of Ø 60 mm



Example 3

Installation adaptor for electronic plastometer in the Pellerin press head with an existing hole of Ø 60 mm

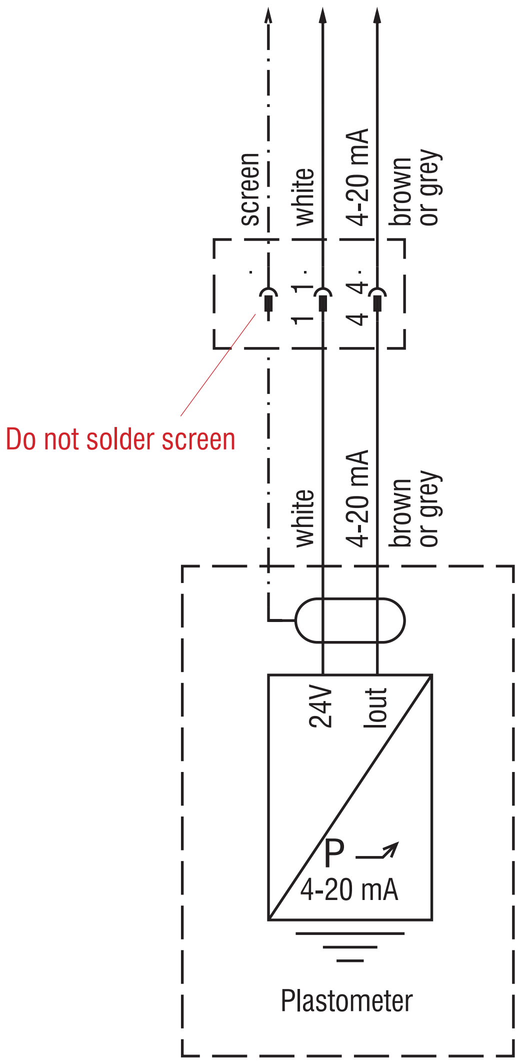


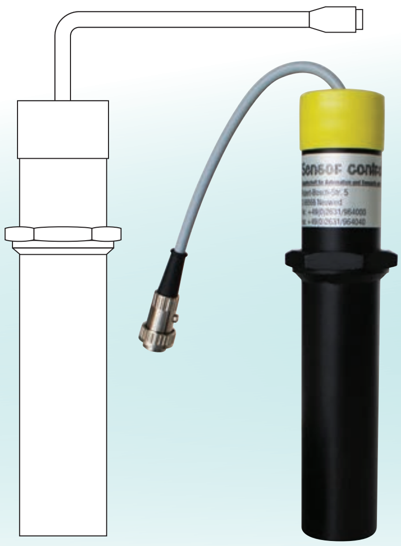
Material: 9 SMn Pb 28K

ELECTRICAL CONNECTION

WITH OUTPUT SIGNAL OR WITH INTEGRATED DISPLAYS

PLASTOMETER ELECTRICAL CONNECTION WITH NO DISPLAY

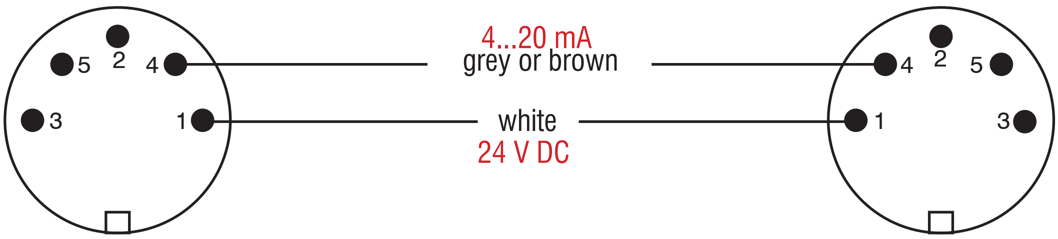




Plastometer plug connection side

4905160
Coupling
5 pin 180°

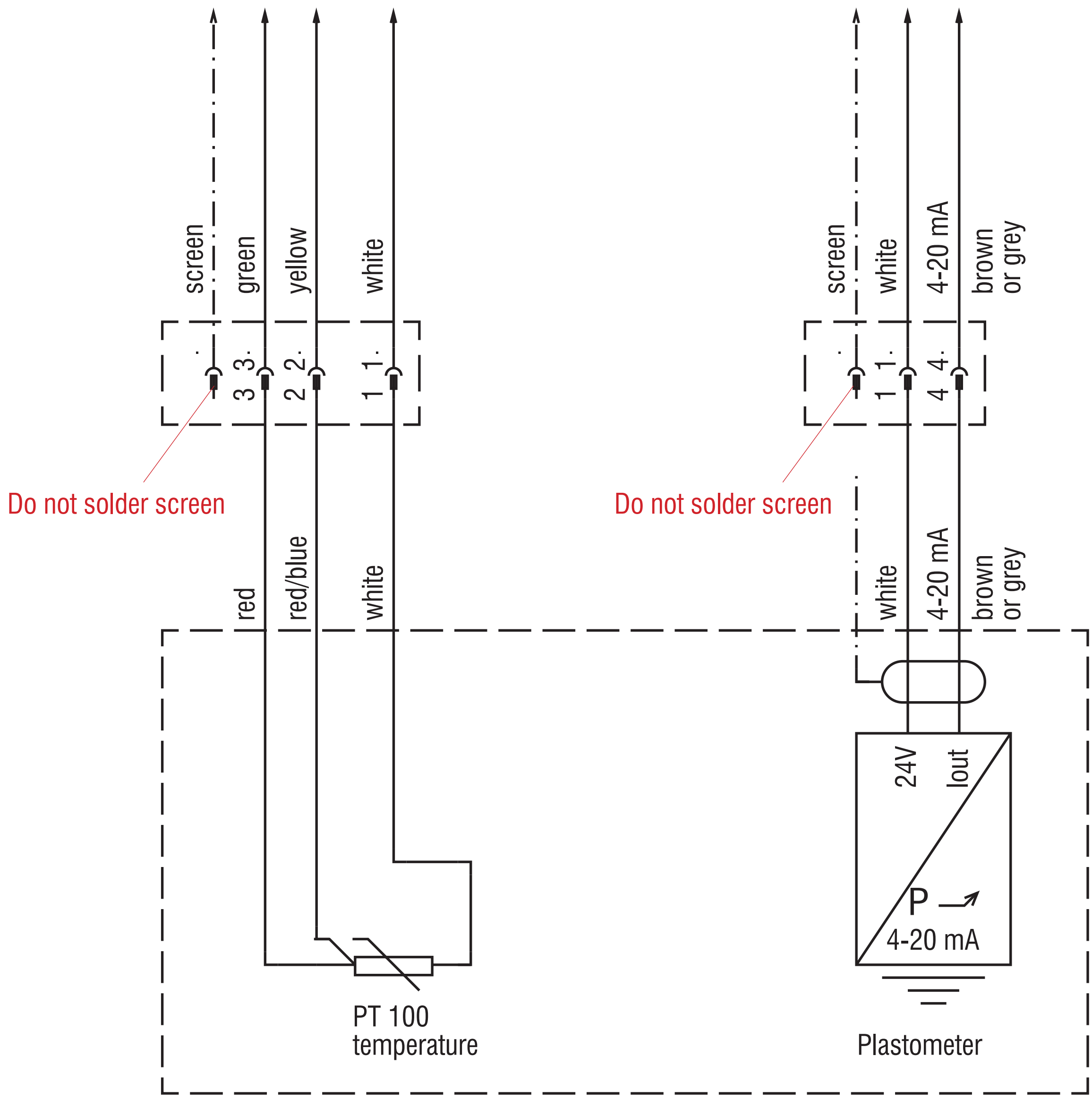
4905162
Plug
5 pin 180°

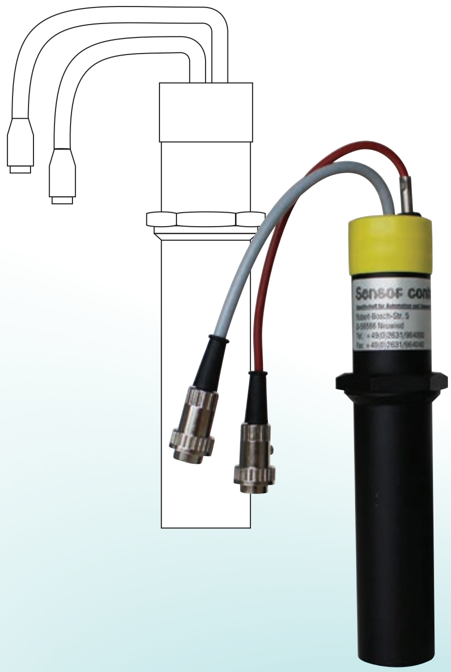


Do not solder screen

Solder the screen to the coupling and fit a wire sleeve on the other side.

PLASTOMETER ELECTRICAL CONNECTION WITH TEMPERATURE SENSOR

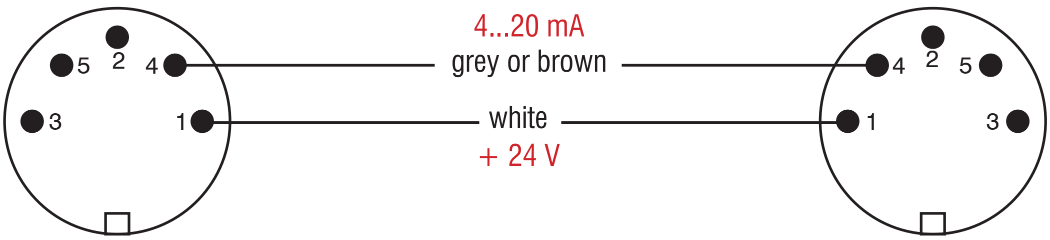




Plastometer plug connection side

4905160
Coupling
5 pin 180°

4905162
Plug
5 pin 180°



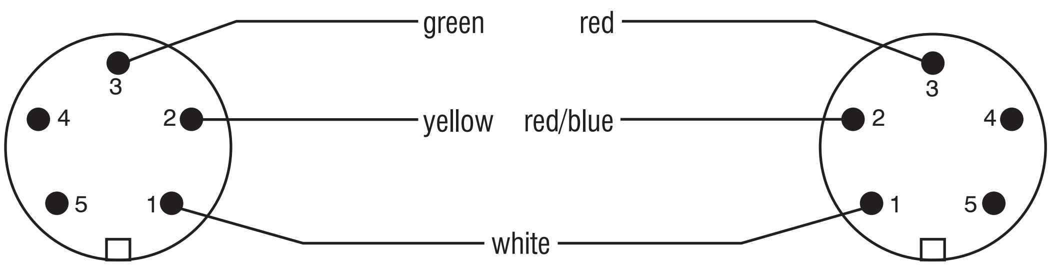
Do not solder screen

Solder the screen to the coupling and fit a wire sleeve on the other side.

Sensor Pt 100 plug connection side

4905161
Coupling
5 pin 240°

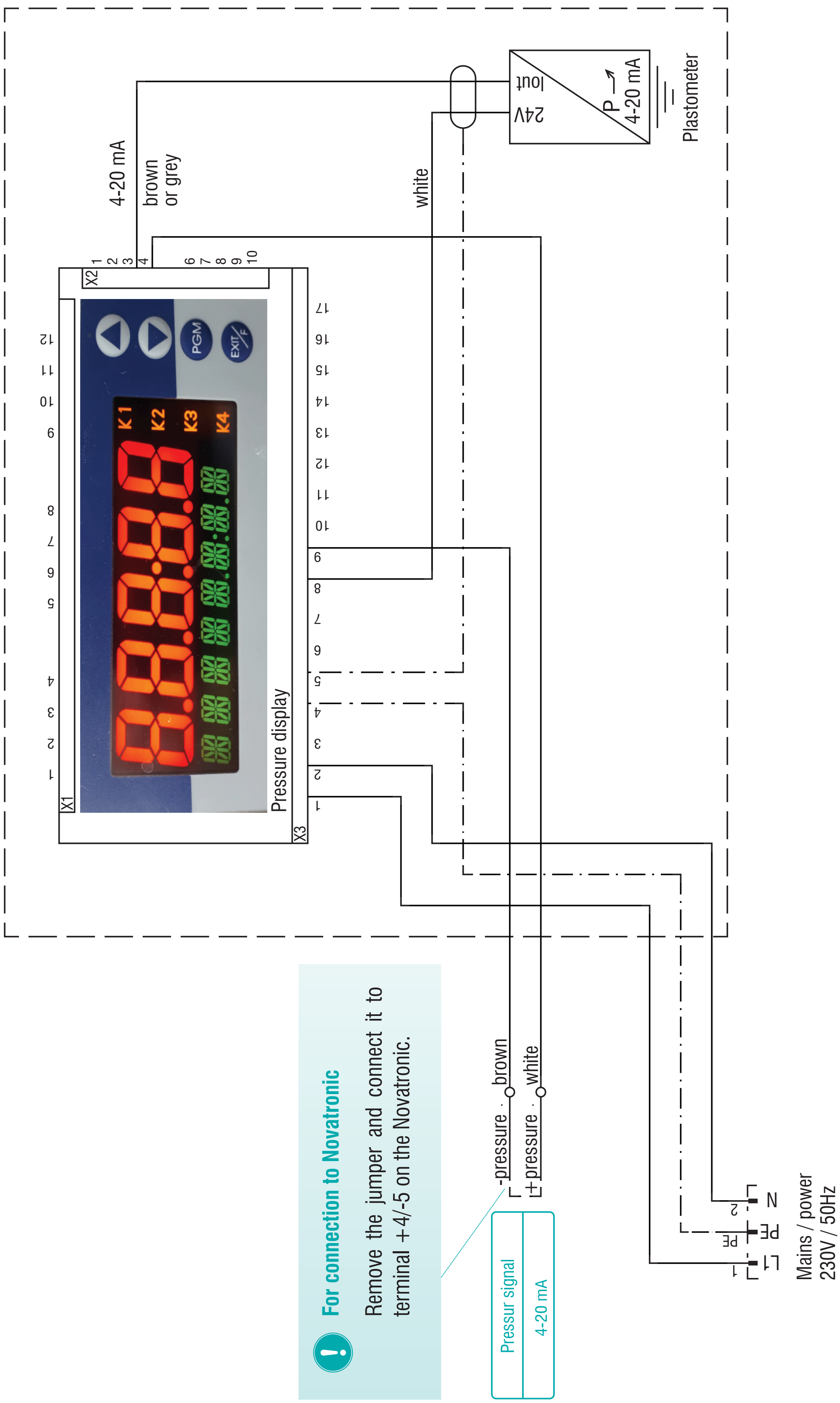
4905163
Plug
5 pin 240°



Do not solder screen

Solder the screen to the coupling and fit a wire sleeve on the other side.

PLASTOMETER ELECTRICAL CONNECTION
WITH PRESSURE DISPLAY



For connection to Novatronic

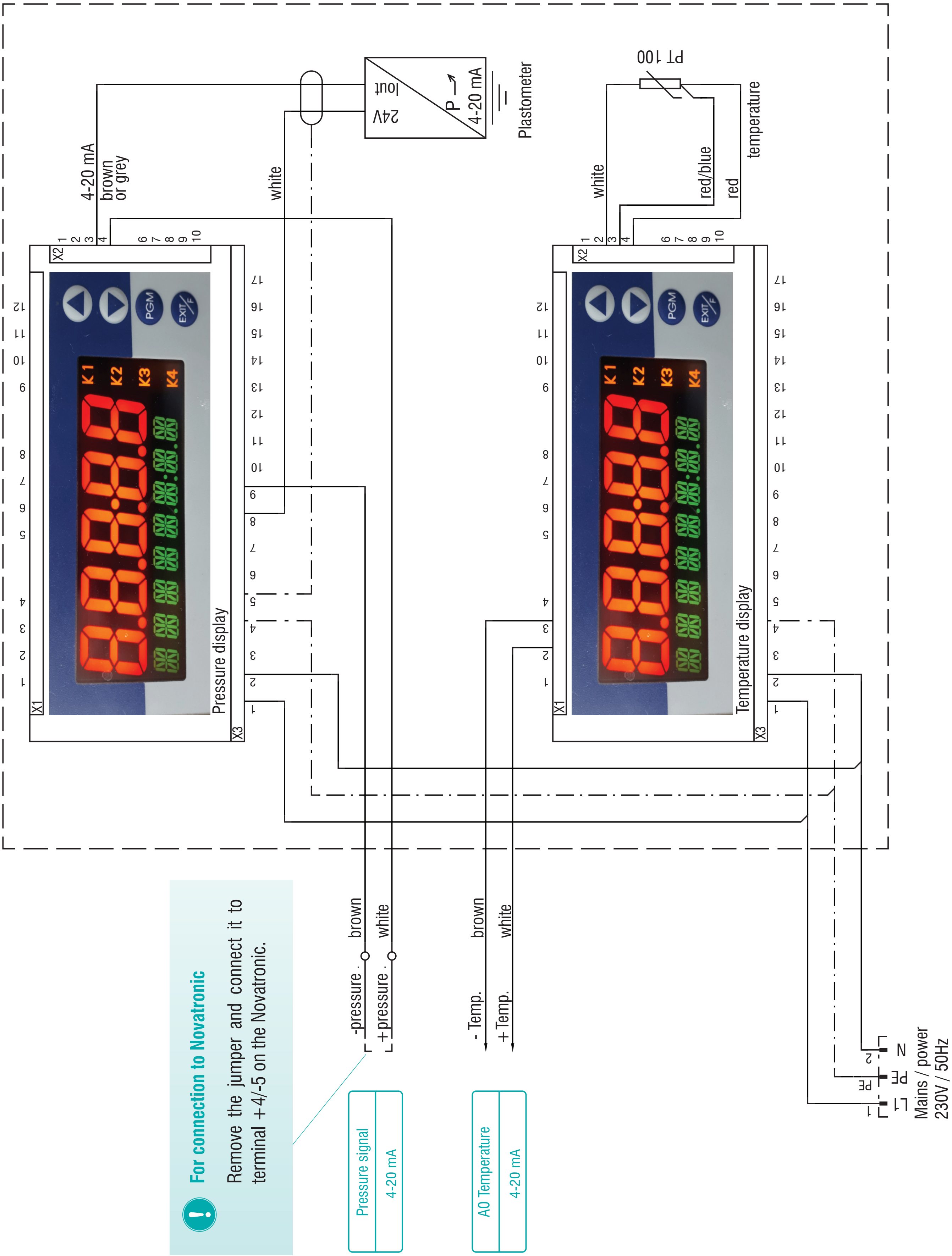
Remove the jumper and connect it to terminal +4/-5 on the Novatronic.

Option: limit comparators

Switching power: 250 V AC/3 A, 24 V DC/2 A

1st limit comparator	(e.g. for minimum)	Pole	Terminal block X3/ 12
		NO contact	Terminal block X3/ 13
		NC contact	Terminal block X3/ 11
2. limit comparator	(e.g. for maximum)	Pole	Terminal block X3/ 16
		NO contact	Terminal block X3/ 17
		NC contact	Terminal block X3/ 15

PLASTOMETER ELECTRICAL CONNECTION
WITH PRESSURE AND TEMPERATURE DISPLAY



For connection to Novatronic

Remove the jumper and connect it to terminal +4/-5 on the Novatronic.

Option: limit comparators

Switching power: 250 V AC/3 A, 24 V DC/2 A

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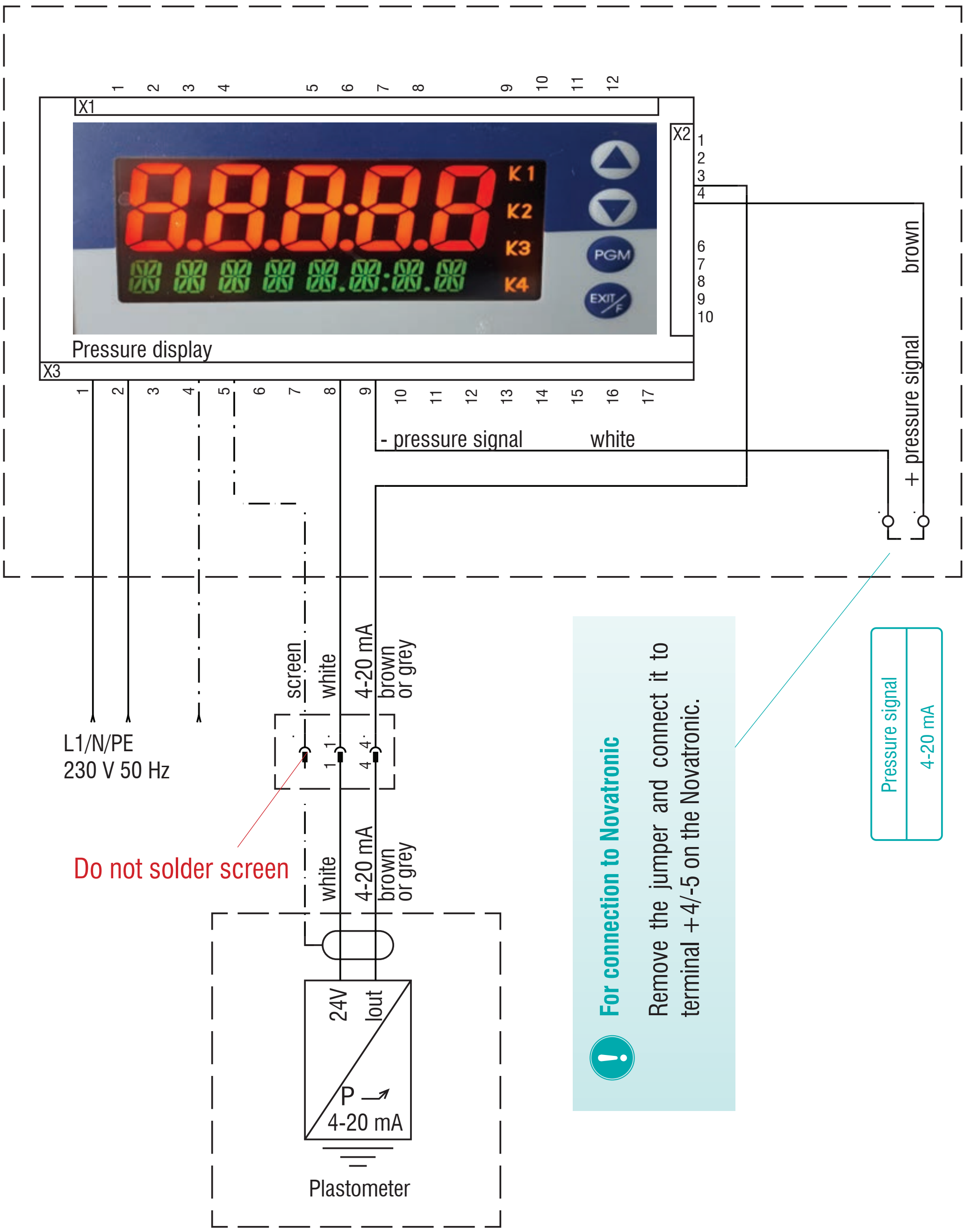
		NO contact	Terminal block X3/ 13
		NC contact	Terminal block X3/ 11
2. limit comparator	(e.g. for maximum)	Pole	Terminal block X3/ 16
		NO contact	Terminal block X3/ 17
		NC contact	Terminal block X3/ 15

PLASTOMETER ELECTRICAL CONNECTION
WITH 1 EXTERNAL DISPLAY

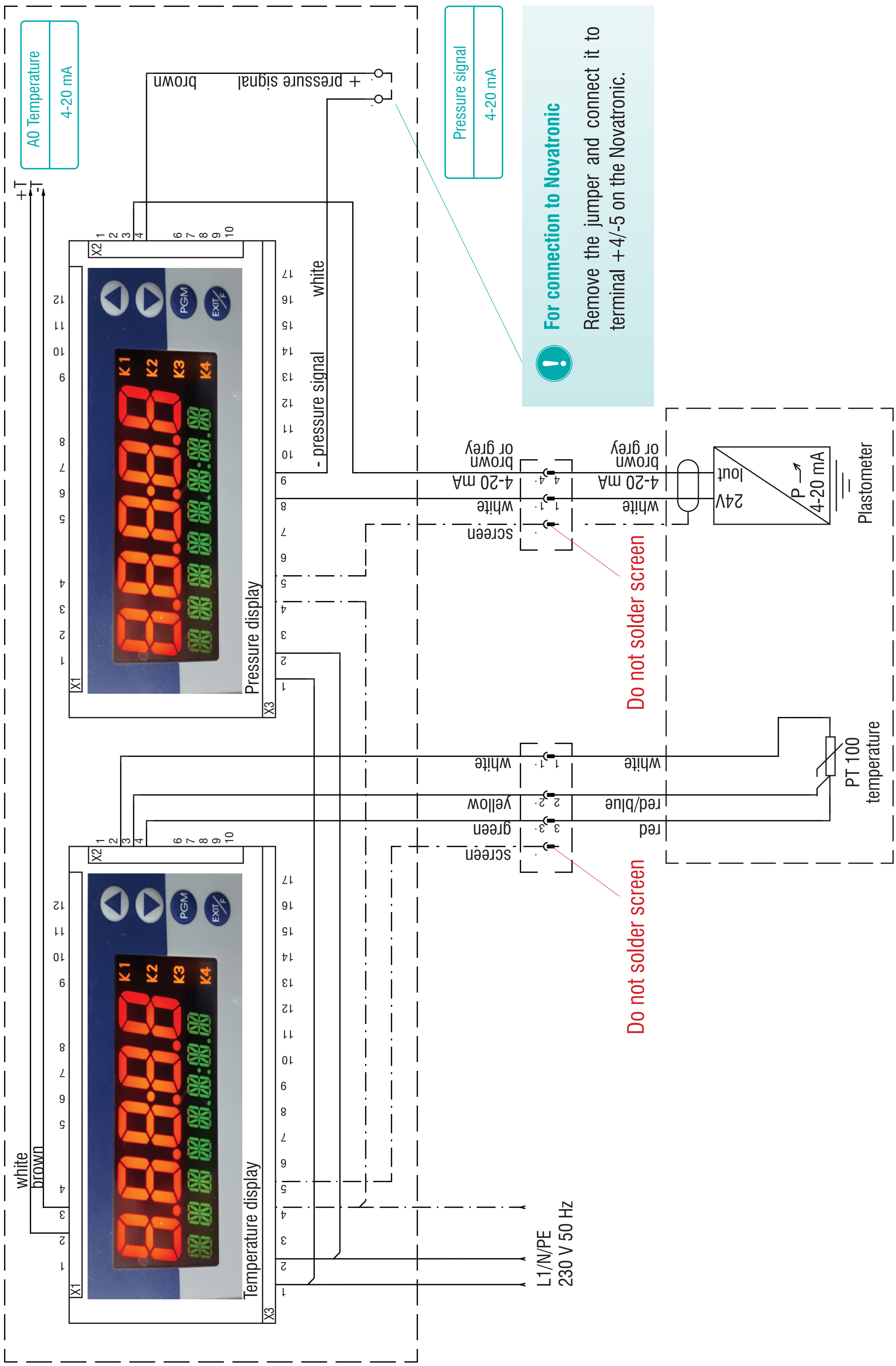


Option: limit comparators

Switching power: 250 V AC/3 A, 24 V DC/2 A

1st limit comparator	(e.g. for minimum)	Pole	Terminal block X3/ 12
		NO contact	Terminal block X3/ 13
		NC contact	Terminal block X3/ 11
2. limit comparator	(e.g. for maximum)	Pole	Terminal block X3/ 16
		NO contact	Terminal block X3/ 17
		NC contact	Terminal block X3/ 15

PLASTOMETER ELECTRICAL CONNECTION
WITH 2 EXTERNAL DISPLAYS



Option: limit comparators

Switching power: 250 V AC/3 A, 24 V DC/2 A

1st limit comparator	(e.g. for minimum)	Pole	Terminal block X3/ 12
		NO contact	Terminal block X3/ 13
		NC contact	Terminal block X3/ 11
2. limit comparator	(e.g. for maximum)	Pole	Terminal block X3/ 16
		NO contact	Terminal block X3/ 17
		NC contact	Terminal block X3/ 15

REPLACING THE RUBBER PROTECTION

Dismantle the plastometer

Disconnect the connection and remove the plug

Pull the cover off the shaft over the cable

Remove the PT 100 sensor (if available) from the shaft

Unscrew the pressure sensor with a socket wrench

Replacing the rubber protection

Assemble in reverse order

Only screw the pressure sensor hand-tight in the shaft
(There must be no pre-pressure)

There must be no air cushion between the pressure sensor and the rubber protection

SENDING FOR REPAIR

We're happy to repair any devices that are faulty or have suffered wear in our workshop.

Please send the faulty device with a description of the fault to:

Sensor control
Gesellschaft für Sensorik und Automation mbH

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56566 Neuwied
Germany

PLASTOMETER_Betriebsanleitung_englisch_10-2025

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