

5	1	Cu-Produžni kabal	4x0,22x4000	Silikon/silikon (T _{max} =180°C)	-	T-17-1453
4	1	Opruga	Ø0,5xØ10x100	-	-	-
3	1	Spojnica na prelazu cevi i kabla	Ø10/Ø8x40	W.Nr. 1.4404	-	-
2	1	Zaština cev	Ø3x100	W.Nr. 1.4404	-	T-282.2
1	1	Otporni senzor Pt-100	-	-	IEC 60751	PH-100.1
Poz. Kom.	Naziv		Dimenzije	Materijal	Standard	Br. criteža
	A3					
Naziv:			Masa			
OTPORNI TERMOMETAR			Standard			
1xPt-100 (4-žični spoj)			Br. criteža			
			1:1			
Oznaka			Lis:			
Izv. pod.			Zamena za			
St. i izm. br.			Datum i ime			

Specification M 12/17e

1 Sheathed resistance thermometer

Dimension according to drawing LP9 737

The single-sheathed resistance thermometer PT 100 is flexible and is characterized by short response times and small dimensions. When applied in areas with strong shocks and high frequency vibrations, the limit values given on drawing LP9 737 are to be observed.

The measuring resistor is incorporated in a rigid tube which is firmly connected with the flexible metal line in which the internal wiring is embedded in high-purity magnesium oxide. The element is equipped with connecting cables.

Measuring resistor: PT 100/0, single

Max. temperature: 600°C

Standard length: 100 mm

Diameter of sheath: 3.2 mm

Material of sheath: stainless steel

Bending radius: min. 6.4 mm; except for measuring point, e.g. the first 60 mm from the point should not be bent

Bolt fitting: shiftable, thread: M 8 x 1, pressure-tight up to max. 10 bar, stainless steel

Half-value-time: $t_{0.5} = 4$ s in water ($v = 0.2$ m/s)

$t_{0.5} = 45$ s in air ($v = 1.0$ m/s)

Connection: Cable (8 m length), firmly connected with the measuring resistor, four connections, 1 terminal box

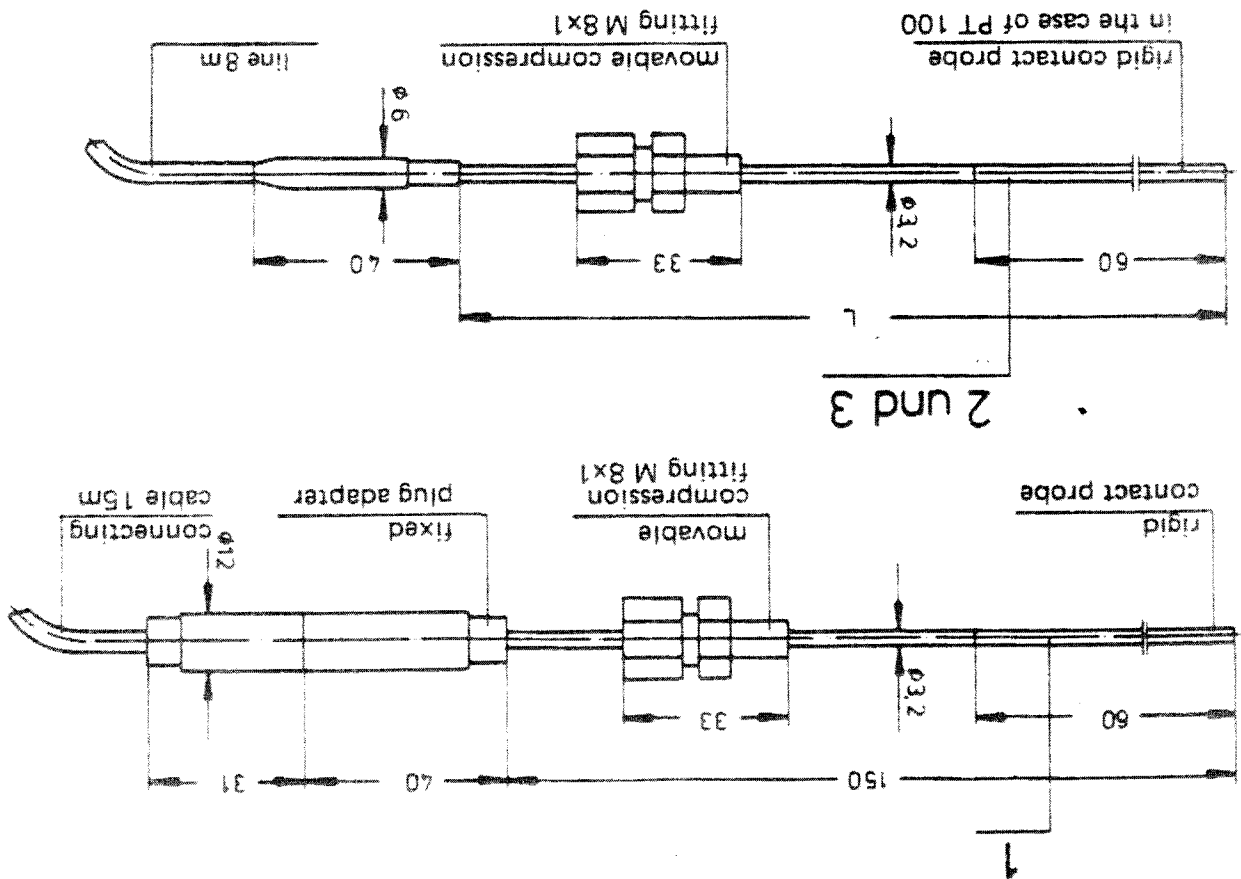
Connecting cable (15 m length) to the measuring amplifier or the indicator

In the case of several pick-ups at one test stand only one terminal box and one connecting line will be delivered.

M 12/17e

* Limit temperature 1100°C in non-sulfurous oxidizing atmosphere
 Limit temperature 1200°C in non-sulfurous reducing atmosphere
 Limit temperature 800°C in sulfurous oxidizing atmosphere
 Limit temperature 550°C in sulfurous reducing atmosphere

No. 1	No. 2	No. 3
Resistance thermometer	Resistance thermometer	thermocouple Ni-Cr-Ni
300 (600)	300 (600)	1200
max. admissible temperature		
10	10	150
smallest measuring range		
4	4	0.5
half value time in flowing water t _{0.5}		
stainless	steel	Inconel*
sheath material		
10	10	10
max. pressure		
150	100	150
max. sensor length "L"		
vibration resistance in the case of sinusoidal vibration	approx. 20 G. in the case of sinusoidal vibration	approx. 50 G. in the case of sinusoidal vibration



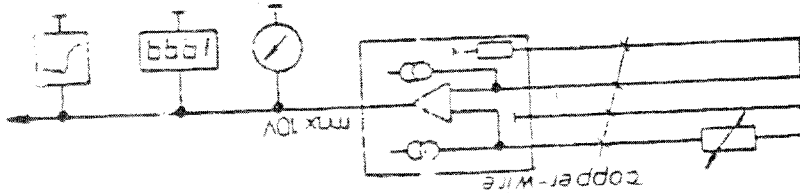
Sensors and connections for measuring instruments
electric

LP9 737

PT 100 SIMULATOR
TYP 4803 OM

- select measuring ranges and close soldering points as indicated in the table
 - connect resistance thermometer simulator (can be ordered from Schenck) as substitute for PT 100
 - connect digital voltmeter at the output of the corresponding measuring channel
 - set measuring value 0°C at the resistance thermometer simulator
 - set zero point at R7 on printed circuit board LMV E 601 (digital voltmeter indicates 0.000 V)
 - set desired max. measuring value at resistance thermometer simulator
 - set desired max. voltage at R5 on printed circuit board LMV simulator
 - protect all potentiometers by means of varnish
- See electrical diagram and wiring table 2
- 4.3 Adjustment of the measuring circuit in connection with test amplifier LMV E 601

Fig. 5 Measuring circuit with amplifier



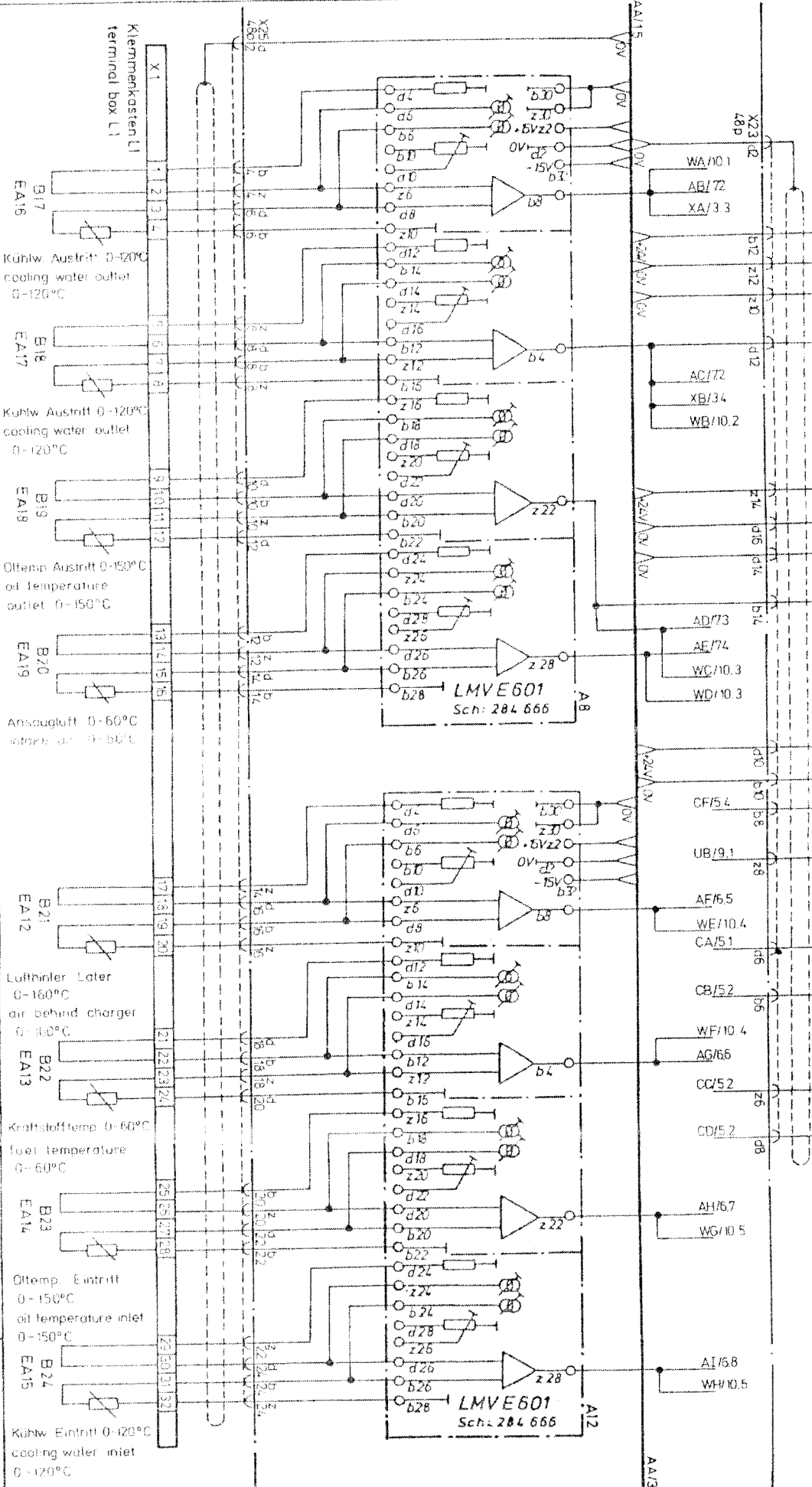
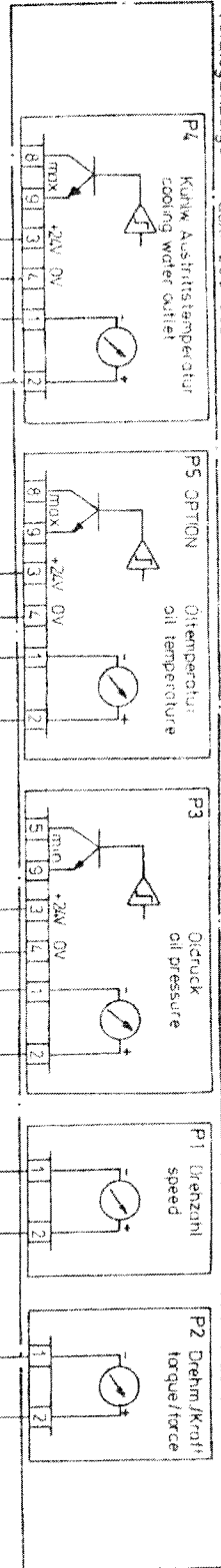
The high output voltage of the amplifier (10 V with max. measuring range) allows direct connection of different measuring and recording instruments including all data-processing systems (fig. 5). The measuring ranges can be converted at any time by closing soldering points.

Since an auxiliary voltage is required for the measuring circuit in any case, the completion of the circuit by means of an amplifier suggests itself. The test amplifier LMV E 601 works according to the principle of the constant current source with an electrometer amplifier connected at the output side. The measuring circuit is to be built up in four-conductor arrangement. Thus no line balancing is required and temperature variations of the measuring cables are fully compensated for.

4.2 Measuring circuit with amplifier

Schutzvermerk nach DIN 34 beachten

Indicator
Analoganzeige
Sch: 203 032



Klemmenkasten (L1)
terminal box (L1)

- EA16 B17 Kühlw Austritt 0-120°C
cooling water outlet
0-120°C
- EA17 B18 Kühlw Austritt 0-120°C
cooling water outlet
0-120°C
- EA18 B19 Öltemp Austritt 0-150°C
oil temperature
outlet 0-150°C
- EA19 B20 Ansaugluft 0-50°C
suction air 0-50°C
- EA12 B21 Luftwärmer Later
air behind charger
0-160°C
- EA13 B22 Kraftstofftemp 0-60°C
fuel temperature
0-60°C
- EA14 B23 Öltemp Eintritt 0-150°C
oil temperature inlet
0-150°C
- EA15 B24 Kühlw Eintritt 0-120°C
cooling water inlet
0-120°C

Sch: 203 032		Datei: 285 85		Datum: 08.11.85	
Sachbearbeiter: M. F. M. / M. F. M.		Name: Carl Schenck AG		Auftraggeber / Auftraggeberbezeichnung:	
Zeichner: M. F. M.		Vollständiger Name: Carl Schenck AG		Benennung des Zeichner-Funktionssymbols: Meß- u. Trennverstärker	
Zugriff: M. F. M.		Zusätzliche Bezeichnung: D200 032		Zugriff Nr. Auftragsgeber:	
Kauf: M. F. M.		Blatt: 2			