



General

The digital instruments **T158/4** resp. **T158/6** are 4-decades resp. 6-decades displays with parallel input. The instruments can be used as a remote indication for programmable controls, digital instruments and other instruments with parallel output. Together with parallel absolut encoders forms the instrument T158 an electronic measuring/display system. The instruments can be delivered with BCD-Code inputs, BINARY-Code input or GRAY-Code input.

Construction

The instruments have a 4-decades or 6-decades display. Every number consists of a 7 segment display and is able to display numbers of 0 to 9 and point. The numeral high amounts to 16 mm. The colour of the display ist red (optionally green). The instruments are equipped with a red (optionally green) filter plate to improve the contrast. The instruments can be read still straightforwardly from larger distance (10 m) through this.

The instruments are placed in a rugged DIN standard case 96x48x107mm. The colour of the front baze is black (optionally mouse-grey RAL 7037 or pebble-grey RAL 7032 as well as light-grey RAL 7035). The connection of the input signal is carried out via a 37-pol SUB-D-Connector. The installation depth inclusive connector is 159mm. For mounting in the panel the instrument is available with a clamping frame.

Functions

Figure 1 shows the block diagram of the unit. The unit consist of the input buffer, the microprocessor, the display driver and the display itself.

The input buffer consist of an internal resistor network and a special input circuit. The voltage level is adjusted by the internal resistor network and fed to the input circuit. The input circuit is controlled by the microprocessor. Input signals will be read when the strobe input is low. After processing to the desired

**Remote Controlled Display
type T158/4 and T158/6**

Highlights

- **Integrated Power Supply**
- **DIN Standard Case 96 x 48(96) mm**
- **LED-Display with 16 mm height of numeral**
- **Input code BCD , BINARY or GRAY**

code the result will be displayed.

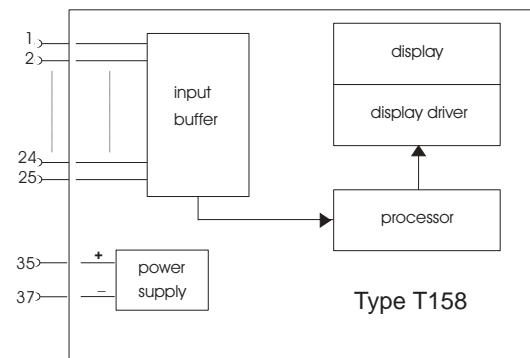


figure 1

Power supply

The instruments contains an integrated power supply for input supply voltages from 15 VDC to 30 VDC. The power supply is not isolated from signal input ground.

Putting into operation

Power supply

The power supply of 24 VDC must be connected to the terminals 37(GND) and 35(+). Attention must be paid that power supply voltage matches the voltage notice at the name plate.

Signal input

All signal and controlled are supplied with PULL-DOWN-Resistances of 10k. An open input means LOW signal.

Strobe-Input

Input signals will be read when the strobe input is low (min. 100ns). The displayed value will be stored when the strobe input signal is high.

Decimal point controlling

The instruments has an external decimal point controlling. By corresponding levels at the point inputs 21,22, and 23 the individual decimal point is controlled on the display.

Decimal point controlling			
Pin 23	Pin 22	Pin 21	decimal point
high	high	high	no point
high	high	low	X X X X X . X
high	low	high	X X X X . X X
high	low	low	X X X . X X X
low	high	high	X X . X X X X
low	high	low	X . X X X X X

22	Point		
23	Point		
24	Sign		
25	Code Sel.		
30	Strobe		
31	Code Sel.		
35	+Vcc		
37	GND		

BCD/BINARY/GRAY Selection

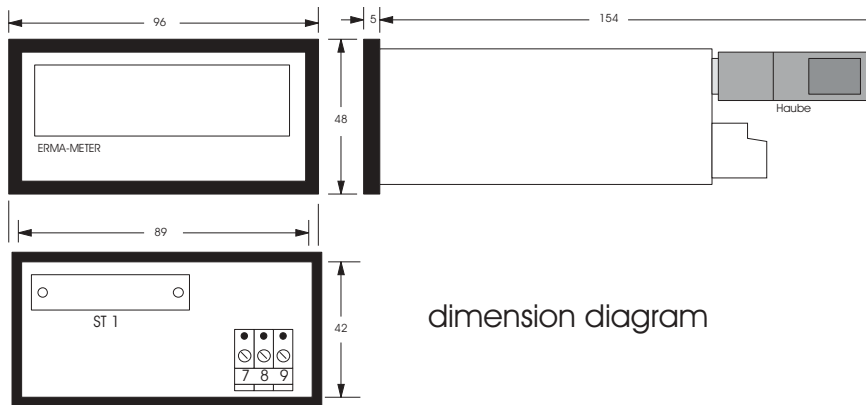
Pins 25 and 31 of the 37-pole SUB-D-Connector are used for the code selection

Code controlling		
Code	Pin 25	Pin 31
Binary	low	low
GRAY	low	high
BCD	high	high

Pin Assignment

37-pole SUB-D-Connector			
Pin	BCD	BINARY	GRAY
1	1	1	E1
2	2	2	E2
3	4	4	E3
4	8	8	E4
5	10	16	E5
6	20	32	E6
7	40	64	E7
8	80	128	E8
9	100	256	E9
10	200	512	E10
11	400	1 024	E11
12	800	2 048	E12
13	1000	4 096	E13
14	2000	8 192	E14
15	4000	16 384	E15
16	8000	32 768	E16
17	10 000		
18	20 000		
19	40 000		
20	80 000		
21	Point		

Technical data	
display	4- or 6-decades, 16 mm, red
working temperature	0 to 45°C
Supply Voltage	15... 36V DC non isolated
Current consumption	max. 80 mA using 24 VDC
signal inputs:	
data code	BCD-Code: max. 20 Bit BINARY-Code: max. 16 Bit GRAY-Code max. 16 Bit
input level	24V
input voltage	max. 30V
input resistance	10 kΩ to +GND
case:	
sizes	DIN-Standard case 96 x 48 x 107 mm
depth	ca. 159 mm (incl. connector)
panel cutout	91 x 43(91) mm
protection cases	IP40 at the front
connection	SUB-D-connection 37-pole
fastening	96 x 48 clamping frame
weight	ca. 400 g
EMV	in conform with 89/336/EWG



dimension diagram