

Figure 1 AI 991

**Design and working principle:** With the interference signal relay, Type AI 991, the signals from different signal lamps are coupled through a diode circuit. As soon as the first interference signal is received, the built-in auxiliary relay responds and actuates two changeover contacts, by which means a common signal lamp and an acoustic signal can be switched on.

This interference signal relay remains actuated until the contact made through the interference signal is opened again.

The interference signal relay, Type AI 991, can monitor 12 interference signal lamps. An extension relay, Type AI 990/04 can be connected up through a supplementary terminal, which will cover a further nine interference signals.

The circuit diagram No. 3 shows an interference signal collecting relay, Type AI 991, connected up to interference signal lamps and an extension relay, Type AI 990/04.

Should the interference signal also have to be maintained when the interference signal contact is reopened in the meantime, then the interference signal relay can be self-sustained through the contact d11.

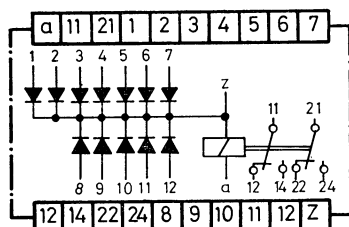
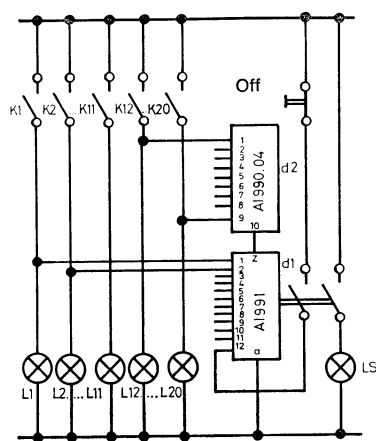


Figure 2 Circuit diagram AI 991



K1...K20 Interference signal contacts  
L1...L20 Interference signal lamps  
LS Collective interference signal lamp

Figure 3 Application example

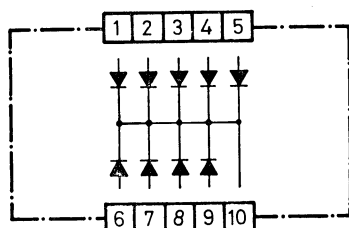


Figure 4 Circuit diagram AI 990/04

<b>Function:</b>	Interference signal relay			
<b>Nominal voltage:</b>	220 V a.c.			
<b>Nominal frequency:</b>	50...60 Hz			
<b>Frequency range:</b>	Nominal frequency $\pm 5\%$			
<b>Nominal consumption:</b>	5 VA			
<b>Temperature range:</b>	-20...+60° C			
<b>Contacts:</b>	2 changeover			
<b>Type of contact:</b>	Spring contact			
<b>Response time of contacts:</b>	30 ms			
<b>Relapse time of contacts:</b>	< 30 ms			
<b>Nominal breaking capacity:</b>	24 V a.c.	110 V a.c.	220 V a.c.	380 V a.c.
cos $\varphi$ 1...0.7	4 A	4 A	4 A	3 A
cos $\varphi$ 0.4	3 A	3 A	3 A	2.5 A
	24 V d.c.	60 V d.c.	110 V d.c.	220 V d.c.
ohmic	1 A	0.4 A	0.3 A	0.15 A
inductive	0.5 A	0.2 A	0.15 A	0.08 A
<b>Continuous current:</b>	5 A			
<b>Life expectancy, contacts:</b>	2 x 10 <sup>6</sup> operations 3000 operations/hour at 50 % rated capacity			
	1 x 10 <sup>6</sup> operations 1000 operations/hour at 100 % rated capacity			
<b>Admissible frequency of operations:</b>	5000 operations/hour			
<b>Life expectancy, mechanical:</b>	3 x 10 <sup>7</sup> operations			
<b>Specification:</b>	VDE 0435			
<b>Creepage distances and air gap:</b>	Group C, 250 V a.c. / 300 V d.c., VDE 0110			

**Case:** Terminal board: Thermoplast PC DIN 7728  
Cover: Thermoplast ABS DIN 7728

**Net weight:** 0.315 kg

**Example of an order:** Model AI 991 Nominal voltage 220 V Nominal frequency 50...60 Hz

**Accessories:**

**Extension relay:** AI 990.04 For supplementary connection of 9 signal lamps; only to be used in conjunction with interference signal relay AI 991.

**Flat plug:** Code letter "A", DIN 46 247, Sheet 1 + Sheet 2 per connection  
1 x 6.3 inclusive  
2 x 2.8

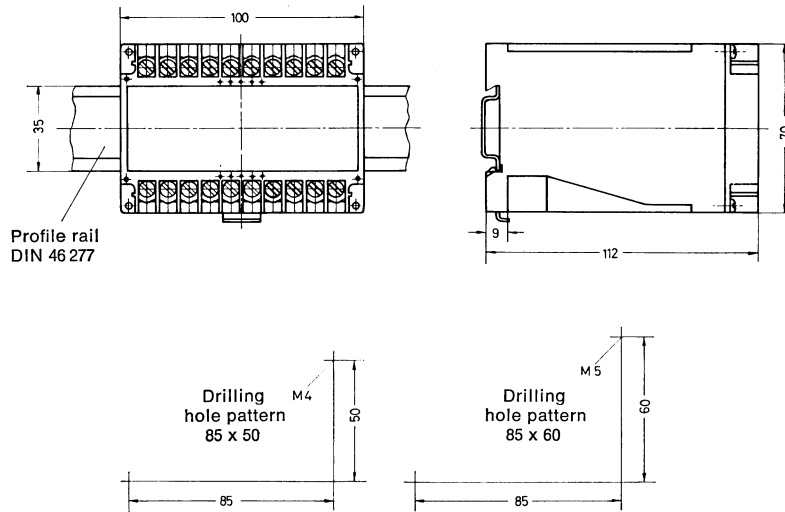


Figure 5 Measurement drawing AI 991

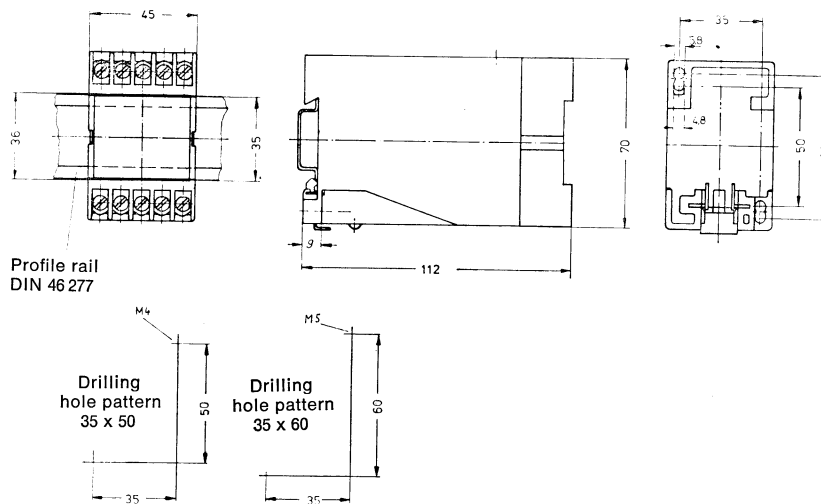


Figure 6 Measurement drawing AI 990