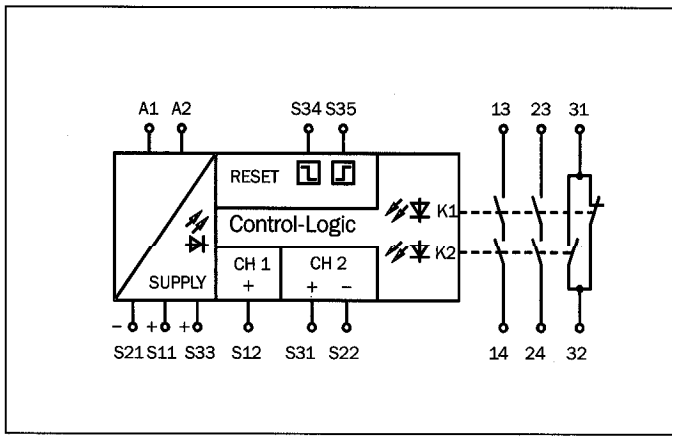
Function

After applying the supply voltage (LED SUPPLY illuminates), the normally open contacts remain open. If the connected sensor is not activated or the protective field of the connected electro-sensitive protective equipment (ESPE) is not broken (i. e. the input circuits are closed), then the normally open contacts close immediately in Automatic Reset. LED K 1 and K 2 illuminate. In the case of Manual resetting, this only occurs after pressing and releasing the Reset button.

The activation of the sensor or incursion into the protective field of the non-contact safety device (open state of one of the two input circuits) effects the opening of the normally open contacts (LED K 1 and K 2 off).



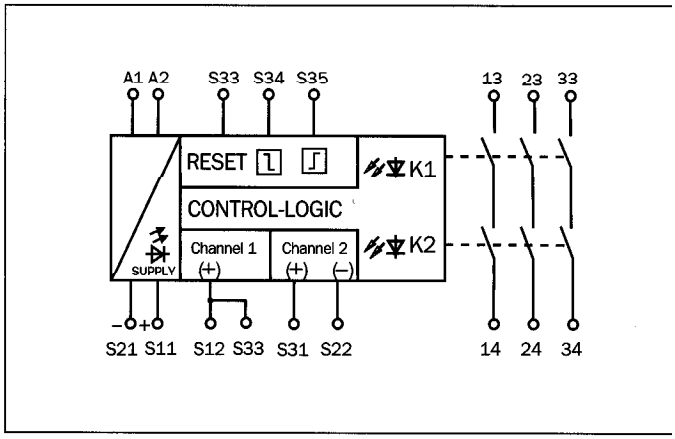
Internal Circuitry UE 48-2 OS

External device monitoring (EDM)
The unit can take over external device monitoring. The contactor monitoring system monitors the external relays by way of their normally closed contacts.

Manual Reset
For Manual resetting, a pushbutton must be connected to terminals S 33 S 34. This Reset is monitored.

Automatic Reset
For ESPE's: S 33 - S 35 must be linked;
for applications with potential free contacts on the input circuit S 12 - S 35 must be linked.

Cross circuit detection
Cross circuit is detected on dual-channel wired systems, if these are wired with opposing polarity.



Internal Circuitry UE 48-3 OS

The UE 48-2 OS **2** and UE 48-3 OS **2** units have screw type terminals.
The UE 48-2 OS **3** and UE 48-3 OS **3** units have removable terminals.

Technical Data UE 48

	min.	typ.	max.
General System Data			
Supply voltage to A 1 / A 2 Electrical output circuit > 25 V AC / 60 V DC Electrical output circuit < 25 V AC / 60 V DC	 PELV PELV **or** SELV		
Safety Category: EN 954-1			4
Stop Category: EN 60 204	0		
Supply voltage V_S (A 1 / A 2)	20.4 V AC/DC	24 V AC/DC	26.4 V AC/DC
Power consumption AC Mode DC Mode			 4.6 VA 2.1 W
Residual ripple in DC mode (within the limits of V_S)			2.4 V_{pp}
Nominal frequency in AC mode	50 Hz		60 Hz
Control voltage S 33 / S 11 and S 21			
Control voltage	17.4 V DC	22 V DC	
Control current	40 mA		100 mA
Electrical short circuit between S 33 / S 11 and S 21)			300 mA
Fuse	Electronic Fuse		
Reaction time by cross connection			50 ms
Switch-on time after cross connection detection			50 ms
Galvanic separation between A 1 / A 2 and S 21, S 11, S 33	 no		
Input circuits (S 12, S 31, S 22, S 34, S 35)			
Input voltage (S 12 and S 31) HIGH LOW	 17.4 V DC –3 V DC		 26.4 V DC +5 V DC
Input current at S 12 and S 31 / S 22		40 mA	100 mA
Input current at S 34 / S 35		5 mA	50 mA
Reset time Manual (S 33 / S 34) Automatic (ESPE: S 33 / S 35; potential free: S 12 / S 35)			 40 ms 80 ms
Activation time for Reset button	50 ms		
Minimum switch-off time / minimum switch-on time	7 ms		
Permitted test pulse time / Test frequency			1000 µs / 10 s^{-1}
Line resistance at the input circuit			35 Ohm
Synchronisation time	70 ms		
Output circuits (13 - 14, 23 - 24, 31 - 32 / 33 - 34)			
Response time (K 1 / K 2)			25 ms
Minimum switch-off time	70 ms		130 ms
Relay contacts UE 48-2 OS **Relay contacts UE 48-3 OS**	2 Normally open contacts (NO), safety relevant 1 Normally closed contact (NC), not safety relevant 3 Normally open contacts (NO), safety relevant		
Contact type	positively guided		
Contact material	Silver alloy; gold-plated		
Load capacity of contacts Switching voltage Switching current Total current across all contacts	 10 V AC/DC 10 mA		 230 V AC / 30 V DC 6 A 12 A
Application Category to EN 60 947-5-1	AC-15 Ue 230 V AC, I_e 4 A (360 c/h) AC-15 Ue 230 V AC, I_e 3 A (3600 c/h) DC-13 Ue 24 V DC, I_e 4 A (360 c/h) DC-13 Ue 24 V DC, I_e 2.5 A (3600 c/h)		
Permitted switching frequency			3600 c/h
Service life, mechanical (switching cycles)	1 x 10^7		
Service life, electrical (dependent upon loading)	2 x 10^6		
Operating data	**see Page 47**		
Weight	0.2 kg		

Order reference list for UE 48

Type	Outputs		Connections		Electrical supply	Part No.
			Screw type terminals	Removable terminals	24 V AC/DC	
UE 48 -	2	OS	2		D2	6 024 915
UE 48 -	2	OS		3	D2	6 024 916
UE 48 -	3	OS	2		D2	6 025 089
UE 48 -	3	OS		3	D2	6 025 097