Dold UH6937 Frequency Monitor Relays

UH6937 frequency monitoring safety relay modules monitor the output frequency of inverters or rotor frequency of slip-ring motors.

- No external sensors necessary
- Independent of direction
- Broken wire detection
- 2-channel operation for frequency monitoring
- LED status indicator
- Time delay settings available

Safety Data – Values per EN ISO 13849-1	
Category	4
Performance level	e
$MTTF_d$	139.6 years
DC_{avg}	99%
Safety Data – Values per IEC/EN 62061/IEC/EN 61508	
SIL CL	3
SIL	3
HFT (Hardware Failure Tolerance)	1
DC_{avg}	99%
PFH_D	1.9e-10

Safety Frequency Monitor Relays Selection Chart

Part Number	*Price*	*Marking Type*	*Frequency Range*	*Voltage*	*Outputs*
UH6937-02PS-24	$650.00	Frequency monitoring safety relay module	1-600 Hz	24VDC	2 N.O. 2 semiconductor
UH6937-02PS-100-24	$650.00		1-1000 Hz		

Safety Frequency Monitor Relays Specification Table

General Specifications	
Temperature	Storage: -20°C to 70°C (-4°F to 158°F) Operating: -20°C to 60°C (-4°F to 140°F)
Altitude	< 2,000m (6562ft)
Vibration Resistance	IEC/EN 60-068-2-6
Degree of Protection	Housing: IP40; Terminals IP20
Housing	UL 94V-0 Thermoplastic; DIN mount 35mm (1.38 in) x 7.5 mm (0.30 in)
Weight	320g (11.29 oz)
Agency Approvals and Standards	cULus file E107778, CE, RoHS, TUV
Terminal Designation	EN 50005
Wire Fixing	Captive slotted screw. Torque 0.8 Nm (7 lb-in)
Input Specifications	
Nominal Voltage	24VDC
Measuring/Motor Voltage	8 to 280 VAC for single phase 16 to 690 VAC for three-phase
Response Value Uan	Variant /0_ _: adjustable from 1-600Hz Variant /1_ _: adjustable from 1-1000Hz
Voltage Range	0.8-1.1 VDC
Nominal Consumption	3.2W
Nominal Frequency	–
Overvoltage Protection	Internal VDR (Voltage Dependent Resistor)
Output Specifications	
Electrical Contact Life	To AC15 at 3A, 230V: $22x10^5$ switching cycles IEC/EN 60 947-5-1
Mechanical Life	20×10^6 switching cycles
Contact Type	2 N.O. positively driven and 2 semiconductor outputs for monitoring
Operate Delay on Standstill	Depends on setting; adjust by potentiometer
Release Delay on Overspeed	t_{off} = typ. 700 ms
Nominal Output Voltage	250VAC
Thermal Current (I_{th})	Max. 8A per contact. See continuous current limit curve in installation manual.
Short Circuit Strength	Max fuse rating: 10A gl (IEC/EN 60 9470-5-1)
Switching Capacity IEC/EN 60 947-5-1	AC15: N.O. contacts: 2A/230V; DC13 2A/24V
Switching Frequency	Max. 1,200 switching cycles/hr
Semiconductor Monitoring	100mA DC 24V; supply via A3+/A4

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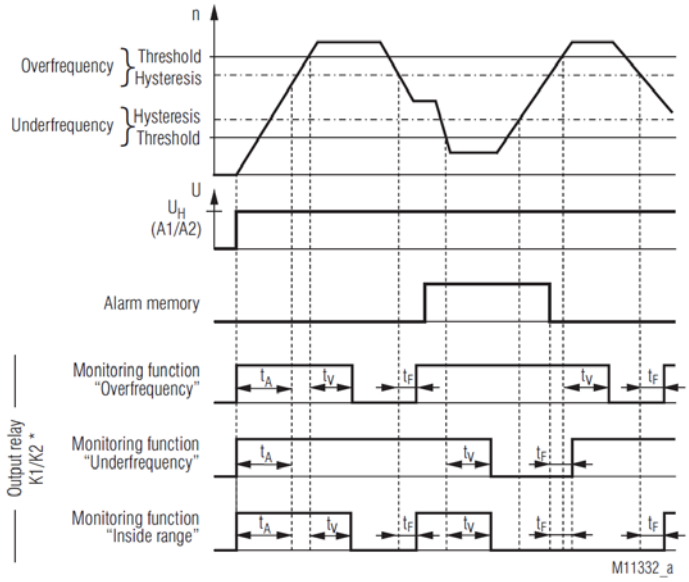
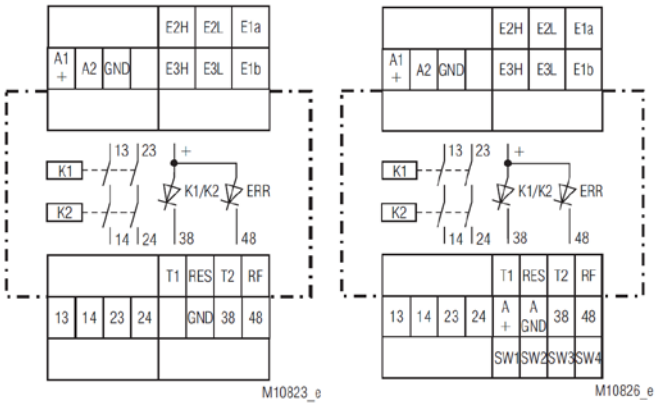
Function Diagram



t_A = Start-up delay, t_V = Alarm delay, t_F = Reset delay

* Depending on the direction of rotation monitoring

Block Diagram

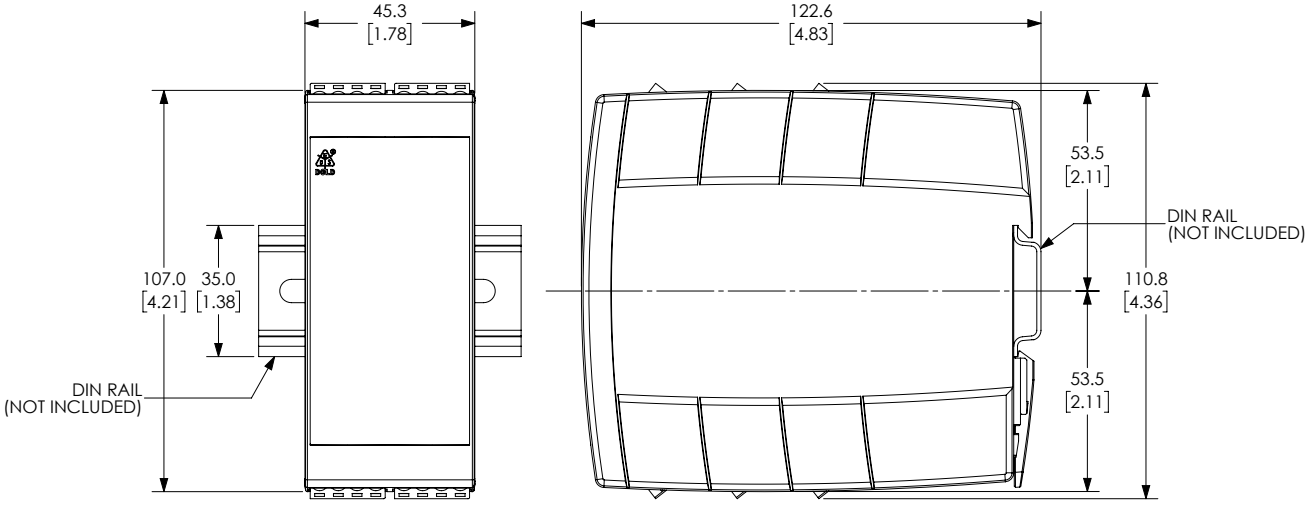


UH 6937

UH 6937/_ _1

Dimensions

mm [in]



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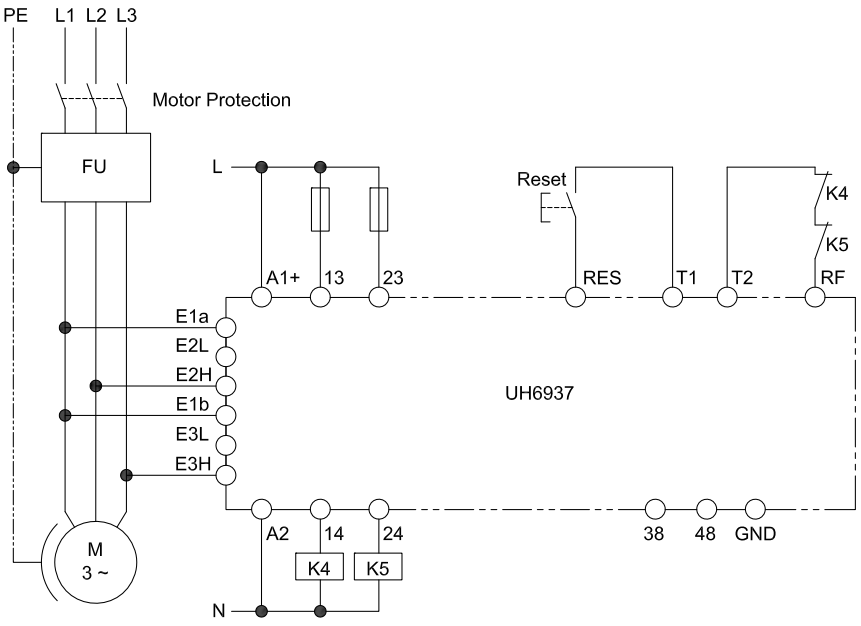
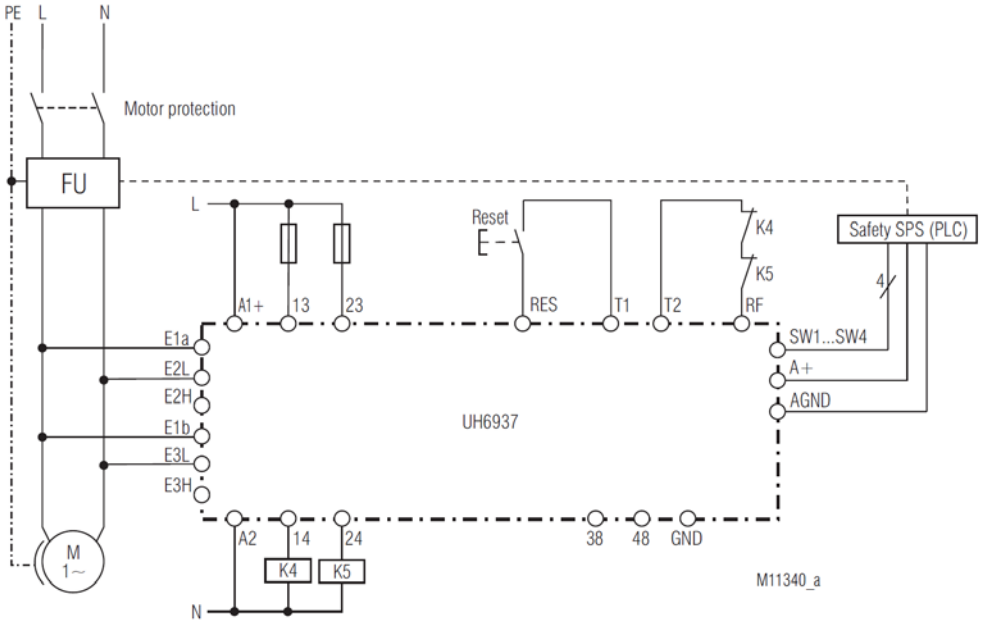
Application Examples



Inverter monitoring function, 3-phase, suited up to SIL3, Performance Level e, Cat. 4



Inverter monitoring function, single-phase, suited up to SIL3, Performance Level e, Cat. 4

Safety Products

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