

The **MS41-42Ex0-R** logic amplifier relay has 4 intrinsically safe inputs that accept NAMUR sensors or mechanical contacts. The inputs are combined into a user defined logic output. The output circuit consists of a DPDT relay.

A switch located on the front panel provides a choice of the following six logic functions:

- AND - NAND
- OR - NOR
- IDENTITY - NON-IDENTITY

A detailed description of the logic functions is shown on the following pages.

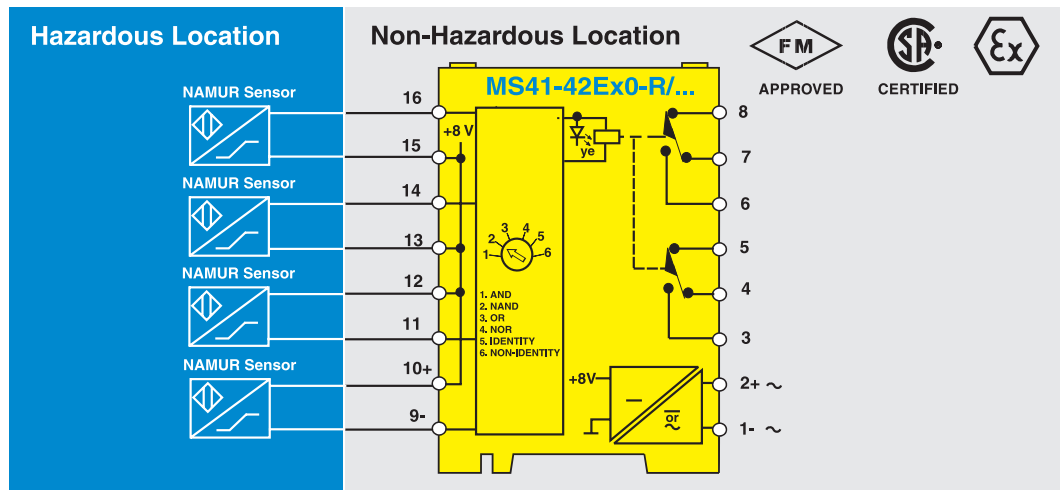
For applications requiring less than four inputs, observe the following:

- unused inputs should be left open when selector positions 1 and 2 are used (AND/NAND)
- unused inputs should be jumpered when selector positions 3 and 4 are used (OR/NOR).

The IDENTITY and NON-IDENTITY functions (selector positions 5 and 6) can only be attained with four input sources.

MS41-42Ex0-R/24VDC
MS41-42Ex0-R/115VAC
MS41-42Ex0-R/230VAC

Connection Diagram



Amplifiers Relays with Logic Functions MS41-42Ex0-R/...(24VDC/115VAC/230VAC)

Type	MS41-42Ex0-R/24VDC	MS41-42Ex0-R/115VAC	MS41-42Ex0-R/230VAC
ID Number	M5365700	M5365400	M5365100
Power Supply			
Supply voltage	20-28 VDC, 10% ripple	98-126 VAC, 48-62 Hz	184-250 VAC, 48-62 Hz
Power consumption	3.6 W	5 VA	5 VA
Galvanic isolation	between input circuit, output circuit and supply voltage, test voltage 2.5 kVrms	between input circuit, output circuit and supply voltage, test voltage 2.5 kVrms	between input circuit, output circuit and supply voltage, test voltage 2.5 kVrms
Input Circuit			
Nominal operating characteristics (per DIN 19234)			
- Voltage	8 V	8 V	8 V
- Current	4.5 mA	4.5 mA	4.5 mA
Switching threshold	1.55 mA	1.55 mA	1.55 mA
Hysteresis	0.2 mA	0.2 mA	0.2 mA
Intrinsic Safety Parameters	See page K14	See page K14	See page K14
Output Circuit			
Contact material	one DPDT relay AgCdO	one DPDT relay AgCdO	one DPDT relay AgCdO
Switching voltage	≤250 VAC/60 VDC	≤250 VAC/60 VDC	≤250 VAC/60 VDC
Switching current	≤4 A	≤4 A	≤4 A
Switching capacity	≤1000 VA/60 W	≤1000 VA/60 W	≤1000 VA/60 W
Switching frequency	10 Hz	10 Hz	10 Hz
LED Indications			
- Output energized	yellow	yellow	yellow
Housing Style	Diagram E (page A18)	Diagram E (page A18)	Diagram E (page A18)

Logic Functions

Type of Inputs	AND		NAND		OR	
	Sensor	Output	Sensor	Output	Sensor	Output
	Logic selector position #	Logic selector position #	Logic selector position #	Logic selector position #	Logic selector position #	
Inductive	1	2	2	3	3	
Capacitive	4	3	3	2	2	
Dry Contacts	4	3	3	2	2	
Inductive Magnet	4	3	3	2	2	

Type of Inputs	NOR		IDENTITY		NON-IDENTITY	
	Sensor	Output	Sensor	Output	Sensor	Output
	Logic selector position #		Logic selector position #		Logic selector position #	
Inductive	4		5		6	
Capacitive	1		5		6	
Dry Contacts	1		5		6	
Inductive Magnet	1		5		6	