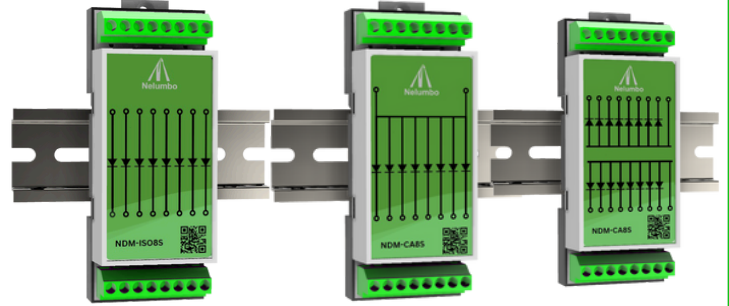# Electronic Interface Board

Diode module

Features:

- Sleek & Compact design
- Ease of connection with the use of standard screw connection PCB Terminal Blocks
- Available with individual, common anode and common cathode & Isolated diode configurations
- Easy to install, commission & maintain

Technical Specifications

Operating Temperature	-20 to 60 °C
Mounting	DIN channel
Housing Material	ABS
Housing colour	Black&white
Terminal	Screw terminal(1.5mm²)

Diode Specifications

Diode	1N4007(M7)
Forward Current	1A
Max. DC voltage	1000V
Forward Voltage	1.1V
Max. DC reverse current	50μA

Part code selection

Description	Selection
Example:	NDM-ISO8S
NIB=Nelumbo diode module	NDM
Module type ISO- Isolated CA- Common anode CK-Common cathode	ISO
Number of channel 8 - Iso,CA & CK 14- CA & CK	8
Terminal type P- Push type S- screw type	s

Connection Diagram:

Electronic Interface Board
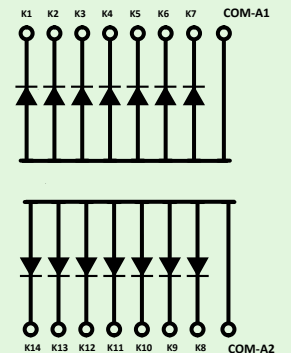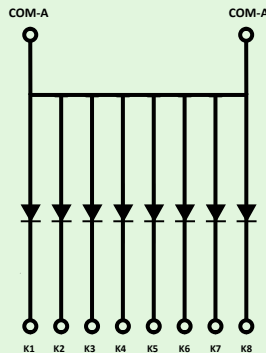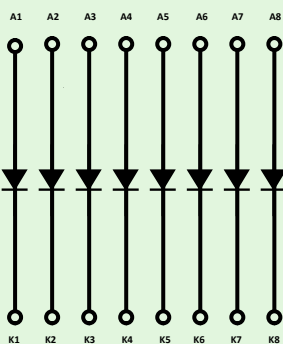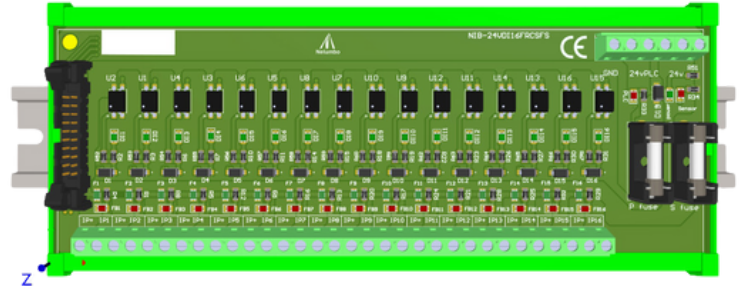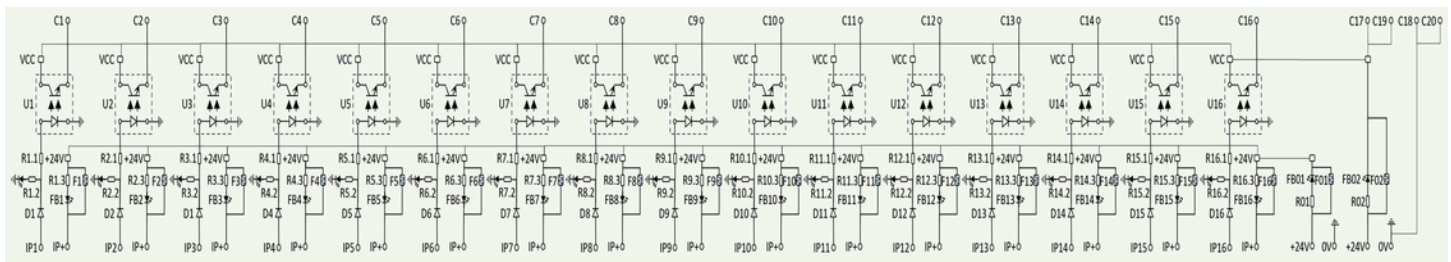

Digital Input Module

Features:

- Sleek & Compact design
- Fast response time
- Self-reset fuse for each channel
- Common fast blown glass fuse for input supply to module and cascaded output for PLC module as Aux power supply
- Bright LEDs with long life at less power consumption
- Opto-isolated inputs, immune to noise disturbances
- Extensive protecions to safeguard electronic components from failure, thereby offering reliable and accurate operaion
- Rugged RoHS compliant plastic enclosure with high strength

Technical Specification

Input Data	
Input supply voltage	20-30 Vdc
power consumption	<1.2W @24 Vdc for PLC DI module power <3.6W @ 24 Vdc while all 16 DIs are ON
Unit healty indication	Green watchdog LED
Number of channels	16 Channels
Interrogation input isolation	Optically isolated "+" ve of 24V can be seprately fed on each *channels*
Interrogation input voltage	Internal: 24 Vdc, External: 18-30 Vdc
Protection	Each channel seprately pootected by Self-reset 150mA fuse
Response time	< 3 msec for individual channels
Terminals	Finger safe barrier terminal(accepts up to pin lungs or bare *wire of 2.5 mm²*)
Output data	
Output voltage	20-30 Vdc (same as Input)
Termination	1x20 pin FRC connector (non-Redundant) 2x20 pin FRC connectors (Redundant option) 1x10 pin FRC connector (for 8 channel
Fuse Indication	Red LED on blown fuse
Number of channel	16 channels
System Data	
Mounting	DIN channel mountable
Operating temperature	-5 to +60°C
Storage temperature	-10 to +70°C
Humidity	95% RH

Part Code Selection		
Description		Selection
Example		**NIB24DI16FRCSFS**
NIB = Nelumbo Interface Board		NIB
Relay Voltage 24 = 24V DC 48 = 48V DC		24
Interface type DI = Digital Input DO = Digital Output RB = Relay Board		DI
Number of Channels 16 32		16
Terminal type, PLC side FRC = FRC type FRCT = FRC & Terminal both C = Cage clamp type P = Push type S = Screw type		FRC
Terminal type, Field side C = Cage clamp type P = Push type S = Screw type		S
ProtecIon on Field side FC = Common fuse for all channels FI = Fuse for individual channels, glass type FS = Fuse for individual channel, self-reset		FS

Connection Diagram:

Electronic Interface Board

Nelumbo

Relay Output Module

Features:

- Sleek & Compact design
- Fast response time
- signal status through Input-wise LED indications
- Plug In Type Relays
- Reduces Installation & commissioning time
- Universal Rail mounting
- Rugged RoHS compliant plastic enclosure with high strength

Technical Specification

Input Data	
Operating Voltage	24 Vdc
Rated Current	25mA
Led indication	Green LED
Back EMF Protection	Free-wheeling Diode
Input Signal	positive Supply

Output Data	
Contact Configuration	SPDT, Potential Free
Contact Current Rating	10A at 250V AC 10A at 30V DC
Max. switching voltage	400 VAC, 300 VDC
Mechanical operation	18,000/ hr
Electrical operation	1,800/ hr (under rated load)

Termination Data	
Terminal type	Screw terminal & FRC
Nominal current	16A
Crodd-section	2.5mm²

Relay Data	
Relay make	Omron, G2R-1-SND
Contact Type	1 Change Over
Approvals	CE EAC CSA UL

Part Code Selection	
Description	Selection
Example	**NIB241CO16FRCTS**
NIB = Nelumbo Interface Board	NIB
Aux Supply 24 = 24V DC 48 = 48V DC	24
Output Type 1CO = Single change Over 2CO = Double change Over	1CO
Number of Channels 16 32	16
Terminal type, PLC side FRC = FRC type FRCT = FRC & Terminal both C = Cage clamp type P = Push type S = Screw type	FRCT
Terminal type, Field side C = Cage clamp type P = Push type S = Screw type	S
Relay Test TF = Test Flag	TF

Connection Diagram:

Aux Relay
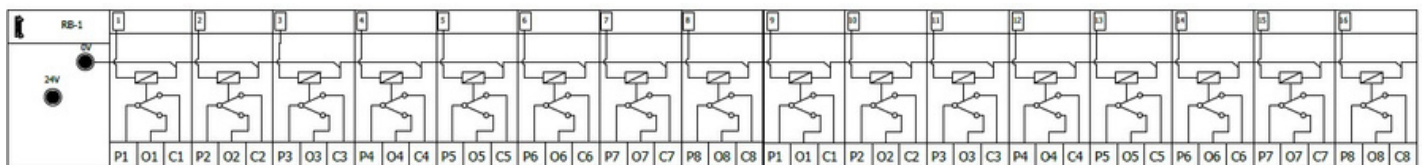
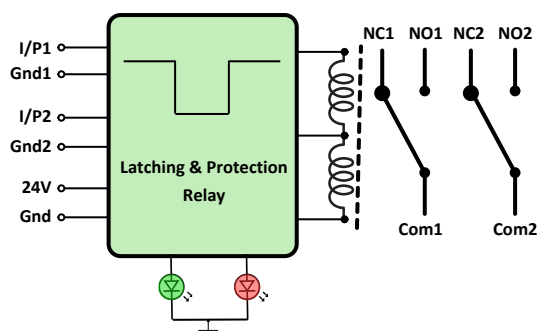## Latching & Safety Relay

Features:

- Sleek & Compact design
- Better response time
- 2 Changeover channels
- Led indication for Latch & Unlatch status
- Gain adjustment for better stability
- Reinforced Isolation
- Reverse power protection
- Rugged CE compliant plastic enclosure with high strength
- DIN rail moutable

Technical Specification

Electrical Property	
Input supply voltage	20-30Vdc
power consumption	<1.2W @24 Vdc , Iout - 20mA
Surge protection	35V TVS diode
Reverse Polarity	Yes
Galvanic Isolation	5KV/10mm Coil-contact
Rated Voltage	250V
Rated Current	8A
Response time	< 30 mSec
Terminals	Screw terminal(2.5mm²)
Input & Output Data	
Latching Input	>10 msec Pulse
Unlatching Input	>10 msec Pulse
Led Indication	Green for Latch & Red for Unlatch (Led status is change when Power is ON/OFF)
Output Contact	1&2 Changeover (250V/8A)
System Data	
Mounting	DIN channel mountable
Color	Black & White
Operating temperature	-5 to +60℃
Storage temperature	-10 to +70℃
Humidity	90% RH

Part Code Selection	
Description	Selection
Example	NTR24V12COLISN
NLR = Nelumbo Latching Relay	NLR
Aux Supply 12V = 12V DC 24V = 24V DC	24
Input Pulse Voltage V1:24V V2:48V V3:110V V4:220V	V1
Output Type 1CO: 1 chage over 2CO: 2 change over	2CO
Latch Led Status LI: LED indication WR: Without LED	LI
Terminal type C = Cage clamp type P = Push type S = Screw type	S
Protection Coating C: Conformal coated PCB N: Not applicable	N

Connection Diagram:
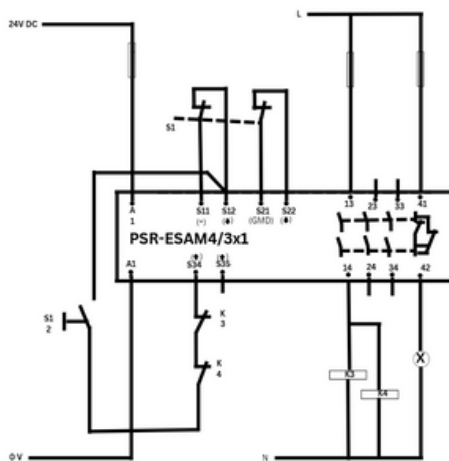
Aux Relay

Safety Relay

Features:

- Sleek & Compact design
- Better response time
- 2 Changeover channels
- Led indication for Latch & Unlatch status
- Gain adjustment for better stability
- Reinforced Isolation
- Reverse power protection
- Rugged CE compliant plastic enclosure with high strength
- DIN rail moutable

Technical Specification

Electrical Property	
Input supply voltage	20-30Vdc
power consumption	<1.2W @24 Vdc , Iout - 20mA
Surge protection	35V TVS diode
Reverse Polarity	Yes
Galvanic Isolation	5KV/10mm Coil-contact
Rated Voltage	250V
Rated Current	8A
Response time	< 30 mSec
Terminals	Screw terminal(2.5mm²)
Input & Output Data	
Latching Input	>10 msec Pulse
Unlatching Input	>10 msec Pulse
Led Indication	Green for Latch & Red for Unlatch (Led status is change when Power is ON/OFF)
Output Contact	1&2 Changeover (250V/8A)
System Data	
Mounting	DIN channel mountable
Color	Black & White
Operating temperature	-5 to +60°C
Storage temperature	-10 to +70°C
Humidity	90% RH

Part Code Selection	
Description	Selection
Example	NTR24V12COLISN
NLR = Nelumbo Latching Relay	NLR
Aux Supply 12V = 12V DC 24V = 24V DC	24
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Output Type 1CO: 1 chage over 2CO: 2 change over	2CO
Latch Led Status LI: LED indication WR: Without LED	LI
Terminal type C = Cage clamp type P = Push type S = Screw type	S
Protection Coating C: Conformal coated PCB N: Not applicable	N

Connection Diagram:

Annunciators, microcontroller based

Electronic Annunciator

Features:

- Based on Single chip Micro-controller technology
- Sleek & compact design
- Fast response time
- Models available from 8 to 128 windows
- Field selectable operational sequences
- Bright LEDs with long life at less power consumption
- Opto-isolated inputs, immune to noise disturbances
- Windows available in 6 colours & 3 sizes
- Replaceable window legends
- Each individual alarm window is fully programmable through DIP switches located at rear side
- Multi relay outputs to connect to external audible (Bell, Buzzer or Hooter). Built-in audible available as option
- With built-in push buttons for Test, Accept and Reset operations
- Extensive protections to safeguard electronic components from failure, thereby offering reliable and accurate operation
- Rugged RoHS compliant plastic enclosure with high strength
- Easy to install, commission and maintain

Technical Specification

Electrical Property	
Input supply voltage	20-60 Vdc or 70-264 Vac/dc
power consumption	*< 0.3 watt / window*
Interrogation input voltage	*Internal: 24 Vdc, External: 18-264 Vac/dc (optional)*
Output relay contact	*Each 1 NO contact for group-1, group-2 & dc fail*
Relay contact rating	5A @ 250 Vac / 3A @30 Vdc

| Input & Output Data	
Unit healthy indication	Flashing green watchdog LED
Number of window channels	1-128 window channels
Window size	Small: 34.5x34.5mm, Medium: 69.0x34.5mm, Large: 69.0x69.0mm
Window colour	Red, Yellow, Amber, White, Green & Blue
Illumination	Ultra-high bright low power LED. 400 lux+ for each window
Interrogation input signal	Potential free NO/NC field programmable
Interrogation input isolation	Optically isolated
Response time	< 25 mSec
Alarm sequences	Field programmable 5 ISA sequences & 1 custom sequence
Flash rate	120 fpm/ 60 fpm (field programmable)
Audible alarm output	>90 db piezo electric buzzer (optional)
Facia window type	Individual window with an option for replaceable legends
Integral pushbutton controls	Integral pushbuttons for mute, test, accept & reset
External pushbutton controls	Provision for mute, test, accept & reset for remote access through rear Terminal
Communication port	RS-485 Modbus RTU protocol
Programmability	DIP switches / micro-USB socket

System Data	
Mounting	Flush panel mount
Terminals	Finger safe barrier terminals (accepts 2 fork lugs with 2.5sq wires)
Operating temperature	5 to +55°C
Storage temperature	-10 to +60°C
Humidity	95% RH

Part Code Selection	
Description	Selection
Example NA-LU164R4CNK0000R4W12M00	
NA = Nelumbo Annunciator, µP based	NA
S = Small Window (34.5 x 34.5mm) M = Medium Window (34.5 X 69mm) L = Large window (69 x 69mm)	L
U = 70-264V AC/DC L = 18-56V DC	U
Number of windows	16
Row configuration (eg: 2R,3R,4R)	4R
Column configuration (eg: 2C,3C,4C)	4C
N = No Inbuilt Hooter H = Inbuilt Hooter & Buzzer	N
N = Front Keypad not required K = Front Keypad required	k
0 = DC failure (DCF) not required D = DCF without relay (DCF mapped to TNT) R = DCF with separate relay	0
0 = AC failure (ACF) not required A = ACF required	0
0 = Standby/Redundant supply not required S = Standby/Redundant supply required	0
0 = Repeat Relay not requires 1 = Repeat Relay required, Internal 2 = Repeat Relay required, Extarnal	0
Number of Trip window*	4
Number of Alarm window*	12
R = Trip window colour RED G = Trip window colour GREEN B = Trip window colour WHITE	R
A = Alarm window colour AMBER Y = Alarm window colour YELLOW W = Alarm window colour White	W
O = No communication facility M = Modbus on RS485 W = Wireless on Zigbee	M
0 = INTERNAL DCF Trigger 1 = Internal & External DCF Trigger	0
0 = Internal ACF Trigger 1 = Internal & External ACF Trigger	0

Annunciators

Electronic Annunciator

Connection Diagram:
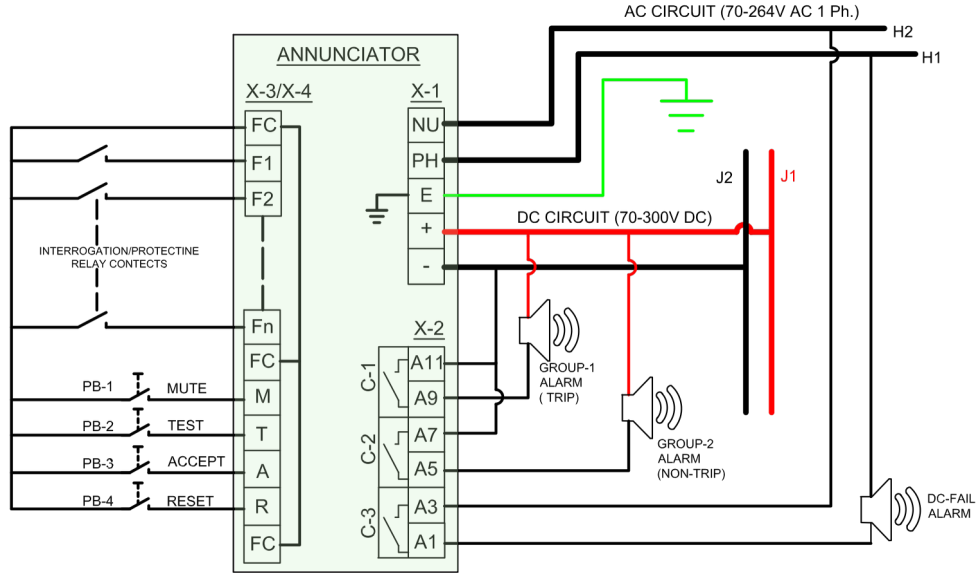
Reference Image & Dimension

Large

Medium

Small