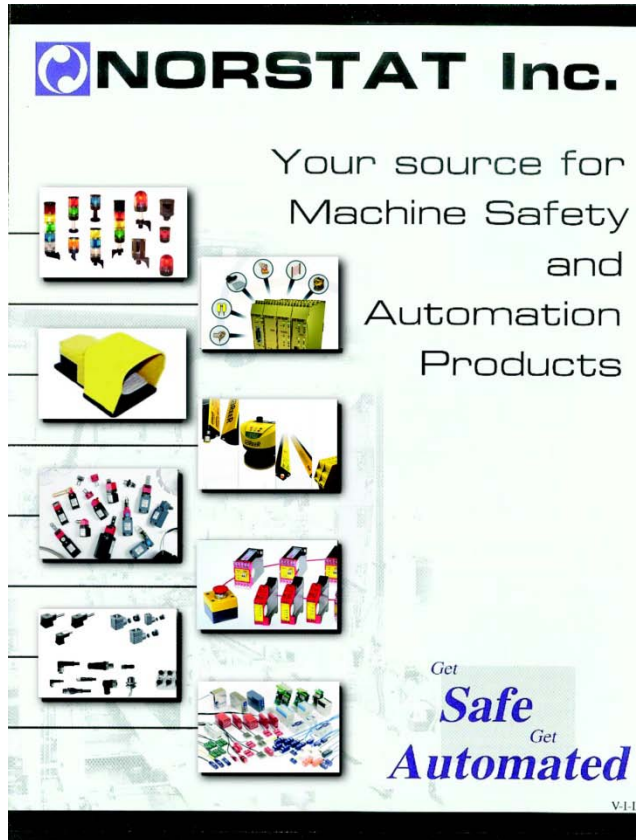


Norstat Presentation



NORSTAT Inc.

Your source for
Machine Safety
and
Automation
Products

Get
Safe
Get
Automated

V-1-II

The image shows a product catalog cover for Norstat Inc. It features a grid of ten small images showcasing various machine safety and automation products, including sensors, actuators, and safety components. The text is arranged in a clean, professional layout with a blue and white color scheme.

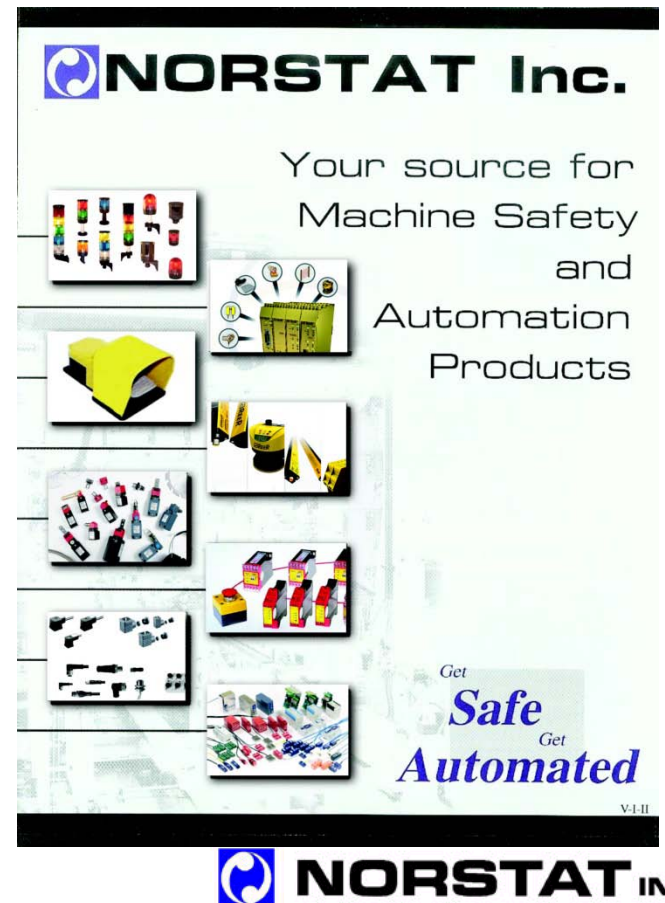
About Our Company



- Since 1962 **Norstat**, has been servicing the industrial automation marketplace by offering safety and automation solutions to the machine and process control industries with a complete line of safety, control, and automation products. Our trained engineering staff offers expert solutions for all your safety and automation requirements

Website

- Norstat Website at www.norstat.com,
- We also list links direct to our suppliers sites for additional information
- New Norstat Blog site www.norstatblog.com



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V-1-II

NORSTAT INC.

The advertisement displays a collection of product images including safety sensors, light curtains, and automation components. The Norstat logo is prominently featured at the top and bottom of the ad.

Safety Switches

- Plastic Safety Interlock Switches
- Metal Safety Interlock Switches
- Solenoid Locking Safety Switches
- Safety Rope Pull Switches
- E-Stop Buttons



Plastic Safety Interlock Switches

- Very cost effective
- High quality
- Large range of sizes and contact arrangements
- Rated at 1,000,000 operation cycles
- Bodies and keys made to standard industrial sizes



NORSTAT INC.

Metal Safety Interlock Switches

- Very cost effective
- High quality rugged design IP 66 housing
- Large range of sizes and contact arrangements
- Rated at 1,000,000 operation cycles
- Bodies and keys made to standard industrial sizes



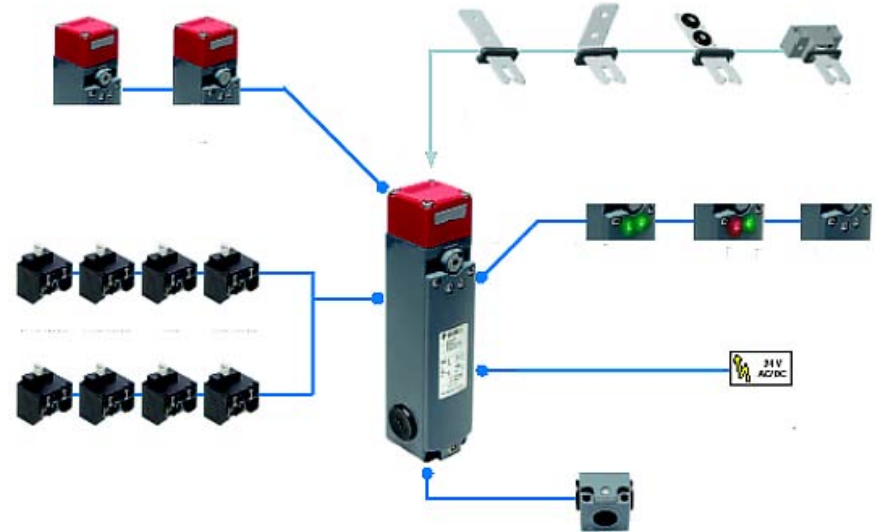
Plastic Body Solenoid Locking Safety Switches

- For machines with inertia, that may still be dangerous after the power is shut down
- Power locking or power unlocking versions
- 24V, 110V or 220V
- In rush cascade and energy reduction circuit



New Metal Body Solenoid Locking Safety Switch

- Actuator holding force – 2500 N (1124 Pounds)
- 4 pole contacts
- Metal housing with 3 cable entries
- LED Indicators
- Power locking or power unlocking versions
- 24V, 110V or 220V



Other Locking Safety Switches

- Manual Delay Opening
 - Without additional wiring
- Cut Key Lock
 - Provides additional level of security without additional cost or wiring



Safety Rope Pull Switches

- Very cost effective
- Versions available with or without tension monitor and reset button
- Many different body styles in metal or plastic
- All accessories including special cable, clamps, turnbuckles and tension springs are available.



ERound Push Buttons

- Full range of ergonomic push buttons
- Simple mounting
- Estop buttons 2 NC or 1NC/1NO
- Push Button Pendant Stations



NORSTAT INC.

What's New?



High Retention Force

- “E3” offers 6.7 force pounds (30N)
- Standard units offer 2.2 force pounds (10N)



FW Switch

- Offers drop replacement for AZ15 and AZ16



Trapped Head

- Head rotates without the need to completely remove

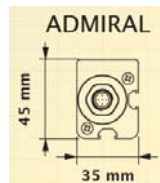


Lockout/Tagout Key

- Block accidental key operation for Lockout/Tagout
- Locks in place with up to four pad locks

Safety Light Curtains

Admiral AX

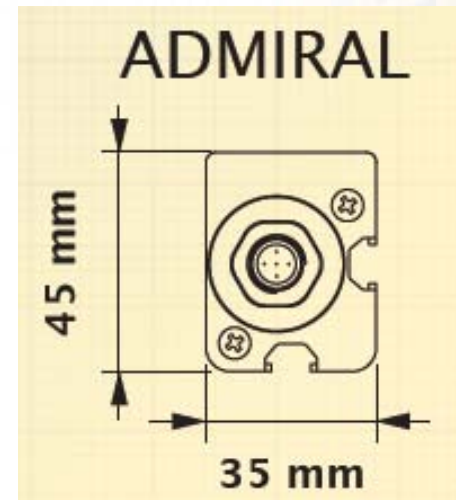
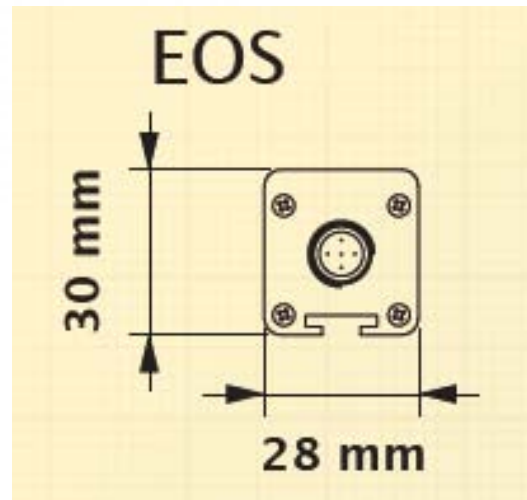


Janus w/built in Muting



SAFETY LIGHT CURTAINS TYPE 4 and TYPE 2

EOS the smallest light curtain in the market



CROSS SECTION
28 X 30 mm

Safety Controller



MODular SAFETY Integrated Controller



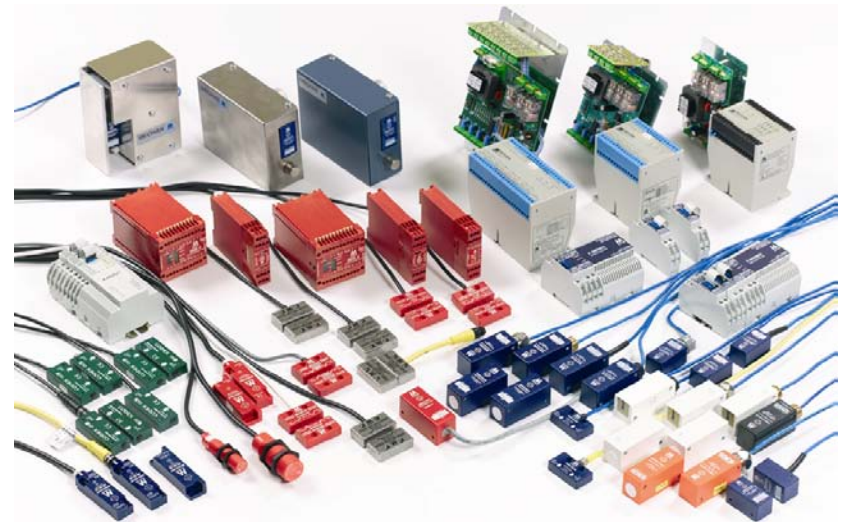
Modular Safety Controller

MOSAIC can manage inputs from safety sensors such as CAT 2 & 4 light curtains, safety photocells, e-stops, safety mats, two-hand controls, non contact magnetic or mechanical safety switches.



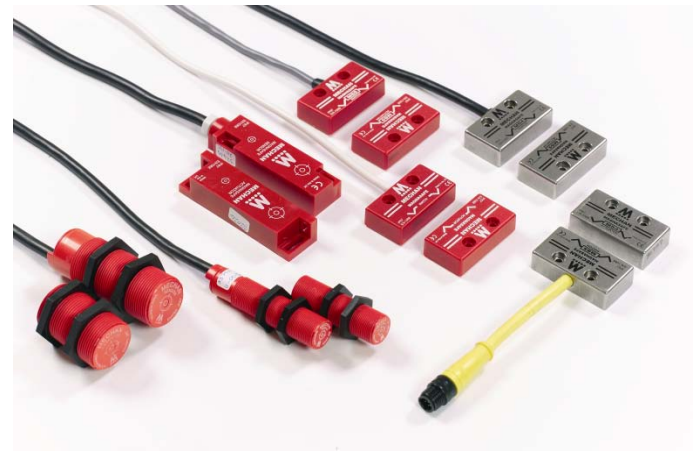
Non Contact Safety Switches

- Non-Contact Safety Systems
- Uniquely Coded Switch System
- Solid State Non-Contact Switches
- Magnetic Non-Contact Switches



MagnaSafe Magnetic Non-Contact Switches

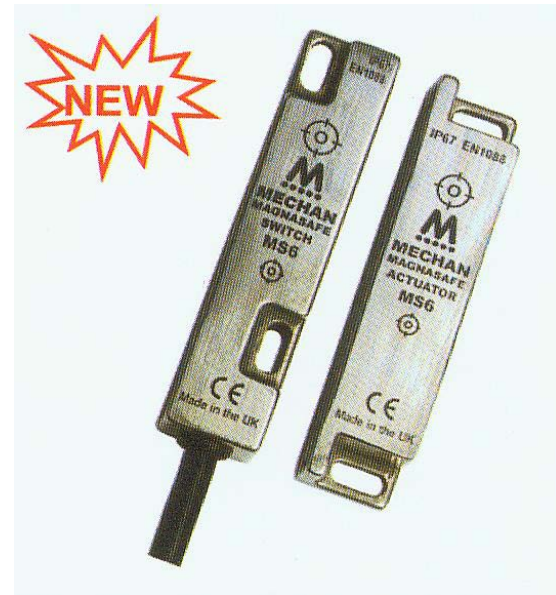
- Magnetically operated switches
- Suitable for harsh environments
- Easy to install
- 8 – 10 mm switching distance
- Stainless steel versions available
- AC and DC versions with up to 2A switching



What's New?

New Stainless Steel MS 6 Magna Safe

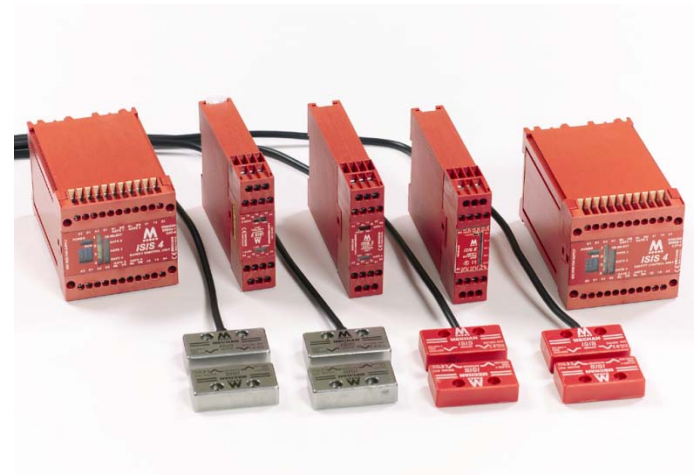
- 2NO
- 1NO & 1NC contacts
- Slim Housing
- Form, Fit mounting with Ferroguard FRS6 & FRS 9



ISIS

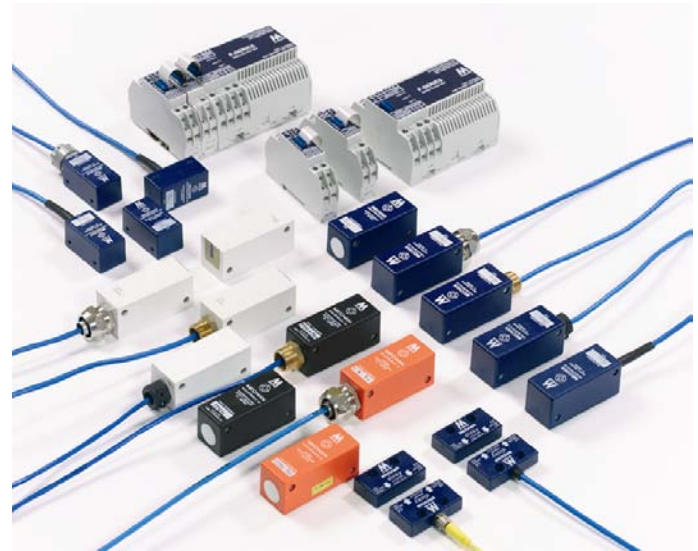
Non-Contact Safety Systems

- Fully monitored magnetically operated system
- Utilizing 2 wire active signaling
- Instant detection of faults
- Expandable modular safety control system can be expanded to run up to 30 switches



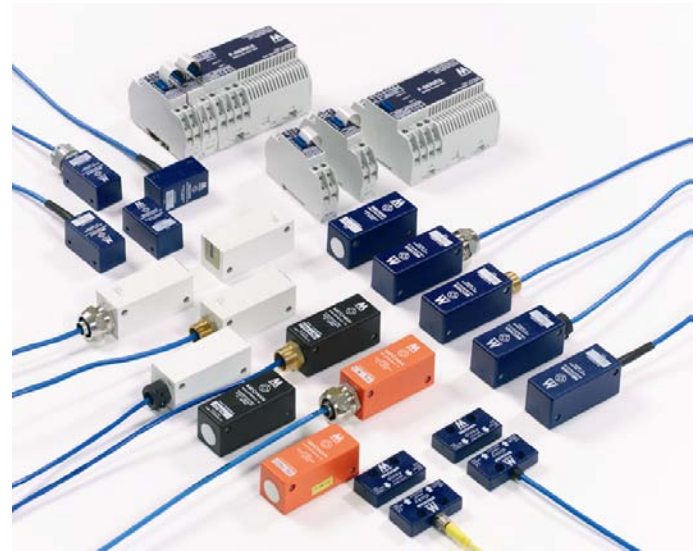
F-Series Non-Contact Safety Systems

- Great for harsh and wet environments
- Utilizes 2 wire active signaling technology
- Instant detection of faults
- Independent contact output and LED for every switch input
- Modular control system can be expanded to run 30 switches



F-Series Uniquely Coded Switch System

- Each control input, receiver and actuator operate on a uniquely coded frequency
- Only a matched system will operate
- Over 500,000 unique codes are used
- Provides an extra level of security



SSS

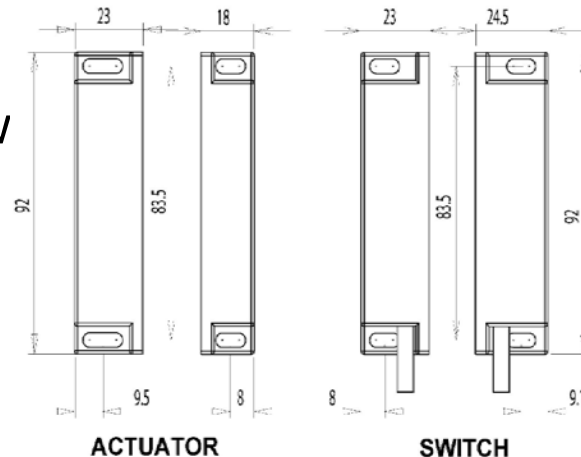
Solid State Non-Contact Switches

- Stand alone solid state non-contact switches can be used with most safety relays
- Operates by active signaling technology
- LED indication on switch
- With or without quick disconnect



SS-R Electronically Coded Safety Switch

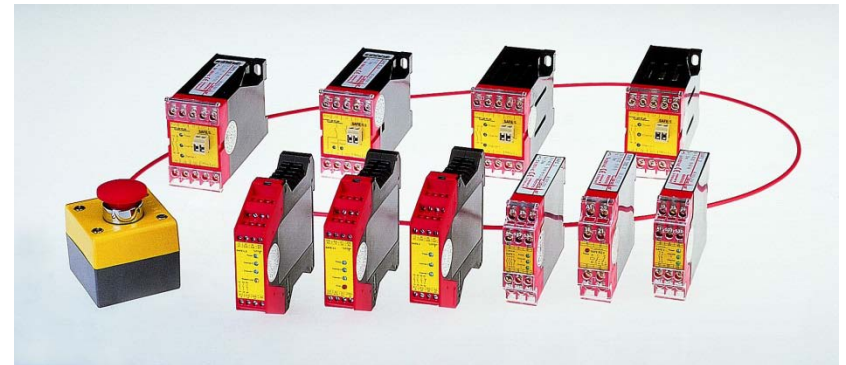
- 2NO and 1NC contacts
- Operates by active signaling technology
- Dual Color LED indication
- 2A current switching
- Polarity independent
- Also available SS-C low current version, smaller housing



NORSTAT INC.

Safety Relays

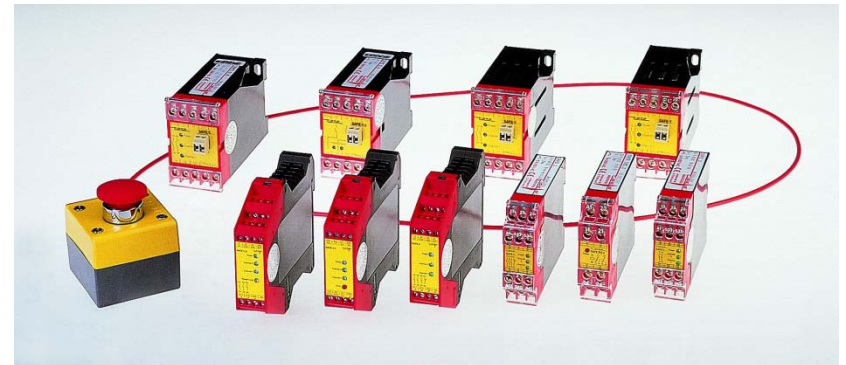
- Emergency Stop & Gate Monitoring
- Expansion Modules
- Mat & Edge Monitoring
- Two Hand Controls
- Light Curtain Relays
- Time Delay Relays



General Features

Most safety relays feature

- Very compact size
- Manual or auto restart versions
- LED indication for power and safety channels
- CE, TUV, UL and cUL approvals



Emergency Stop & Gate Monitoring – Category 2 & 3

SAFE 1 & SAFE 1.1

- The smallest safety relay available
- 3 NO safety & 1 NC aux. outputs
- LED indication
- Din rail mounting
- Simple operation
- Easy to retrofit



Emergency Stop & Gate Monitoring – Category 4

SAFE 2 & SAFE 2.1

- The smallest safety relay available
- 2 NO safety outputs
- LED indication
- Din rail mounting
- Simple operation
- Easy to retrofit



Emergency Stop & Gate Monitoring – Category 4

SAFE 4 & SAFE 4.1

- 3 NO safety & 1 NC aux. outputs
- 24V, 110V or 220V operating voltage
- LED indication
- Din rail mounting
- Simple operation



Expansion Modules

SAFE X4 – RSNAG X5

- Works with safety relay to expand the number of safety outputs
- SAFE X4 has 4 NO safety & 1 NC aux. outputs
- RSNAG X5 has 4 NO safety & 1 NC aux. outputs
- 24V, 110V & 220V



Mat & Edge Applications

SAFE M & SAFE M.1

- Safety category 4 (EN 954) for 4 wire mats and edges
- Opposite polarity protection
- 3 NO safety & 1 NC aux. outputs



Two Hand Anti Tie Down

SAFE Z.2

- Insures activation of two inputs within .5 seconds
- 3 NO safety & 1 NC aux. outputs
- 24V, 110V & 220V



Light Curtain Applications

SAFE L, SAFE L.1 & SAFE L.2

- Monitors PNP signals from light curtains or other solid state devices
- Very fast reaction time
- SAFE L has 2 NO safety contacts
- SAFE L.2 has 3 NO safety outputs



Time Delay

SAFE T

- 2 NO safety contacts shift immediately; an additional 2 NO safety contact shift after a preset time delay
- Dual timers provide safe output
- Time delay from .05 to 600 seconds in 64 steps



Multiple Outputs

RS-NAGV

- 6 NO safety outputs, 4 NC auxiliary outputs
- For emergency stop and gate monitoring applications



What's New?

NEW SAFE 5

- Similar in operation to the SAFE 1 and 1.1 with the new housing
- Offers low cost solution



What's New?

NEW SAFE C

- Designed to be used in master-slave applications
- Offers relay logic operations to create multiple functioning safety zones
- Semiconductor Circuit, no mechanical relays



Optical / Audible Signaling Devices

- 50MM Diameter
- 35MM Diameter
- Stack Lights
- Single Lights
- Buzzer Modules



Stacklight Features

- Elements featuring BA15d sockets can run incandescent or LED bulbs
- Permanent and blinking elements have a voltage range of 12 to 240 V
- LED bulb
- 1 to 5 joule flashing element
- Audible elements – with adjustable tone, volume and frequency
- Up to 5 positions per stack



Stacklight features

- Unique Bayonet locking feature
- High protection rating of IP65
- Six colors available include red, green, yellow, blue clear and amber
- High light intensity through optimized internal prism form
- Large range of accessories
- Bulb BA15d up to 10W for large signal areas
- BA15d LED bulb for long life (up to 50,000 hrs)



Stacklight features

- Socket of high impact plastic
- Quick and easy assembly and bulb exchange
- Many assembly variations possible
- Shock and vibration resistant
- Products have a long lifetime
- Up to five elements per stack



Single Beacons and Buzzers

- Uses terminal base from standard stacklight
- Large range of mounting possibilities
- Single beacons, buzzers and combination using a light and buzzer module



Installation Beacons and Buzzers

- Bulb changed from inside the mounting
- Tamper proof
- IP 65
- Single and double mounting boxes available



Automation Products

- Position Switches
- Footswitches
- Enabling Switches



Plastic & Metal Position Switches with Top Mount Actuators

- Very cost effective
- High quality
- Huge range of actuators and contact varieties available



Plastic & Metal Position Switches with Side Mount Actuators

- Very cost effective
- High quality
- Huge range of actuators and contact varieties available
- Actuators and switches sold separately to offer better range of products from stock



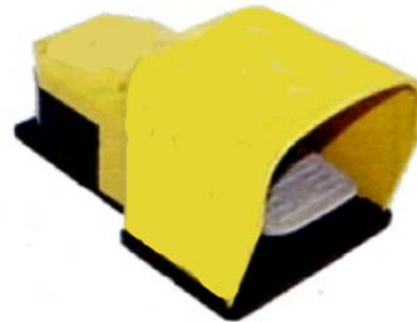
Small Pre-wired Limit Switches

- Very accurate high repeatability switching
- Rugged housing design
- Large range of actuators



Footswitches

- Very cost effective
- Medium duty plastic hood
- Extra block can be added to output contacts
- Footswitches can be joined together to form multiple unit



DIN 43650

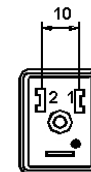
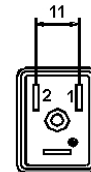
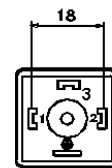
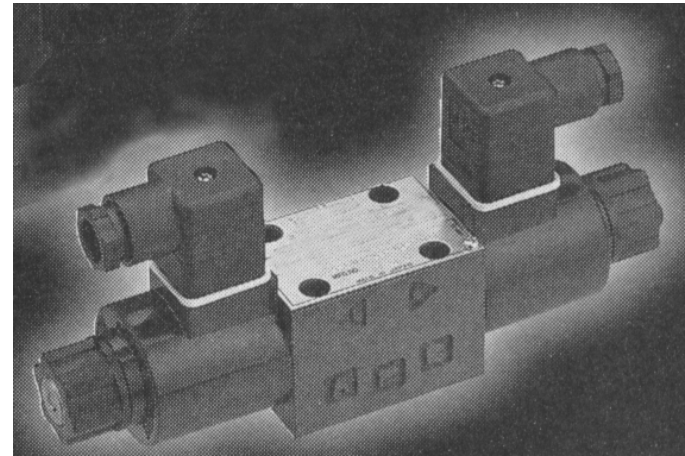
Molded Assemblies & Connectors

- DIN 43650 Molded Assemblies
- DIN 43650 Connectors



DIN 43650

- Typically used to electrically connect hydraulic & pneumatic solenoids, filter & pressure switches and sensors
- This connector group is used by the majority of valve manufacturers



DIN 43650 Molded Assemblies

- Saves installation time and expense
- Available in 3 & 5 meter cables in all 5 DIN 43650 types
- With or without light indication and surge suppression
- For 24, 110 & 220 volt applications



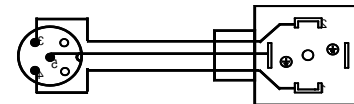
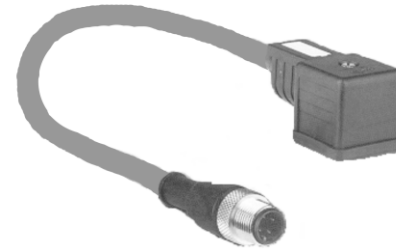
DIN 43650 Connectors

- Provides a greater range of connectors than offered by the valve manufacturers
- Circuits available include
 - Without components
 - LED Only
 - Varistor & LED
 - Diode & LED
- For 24, 110 & 220 volt applications



M12 to DIN 43650 Extension Cords

- Typically used to connect solenoid valves or sensors to distribution boxes
- All DIN 43650 types available
- With or without LED and Supression
- .5 Meter (1.6 feet) standard cable length (other lengths available upon request)



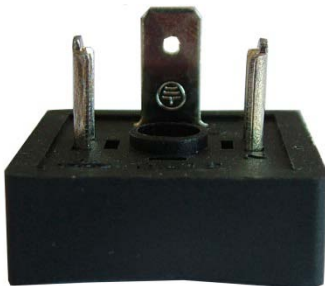
Multiple Connector Assemblies

- Up to 8 connectors with 1 main cable
- One individual to each connector
- Common negatives and grounds



DIN Male Panel Mount (Bases)

- Male DIN43650 connectors
- For panel and special mounting



M12 Connector Wiring

- 3 Pole Versions

- 1 = Positive
- 3 = Negative
- 4 = Signal

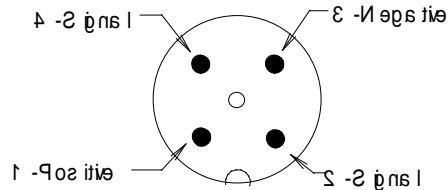
- 4 Pole Versions

- 1 = Positive
- 3 = Negative
- 2 = Signal 1
- 4 = Signal 2

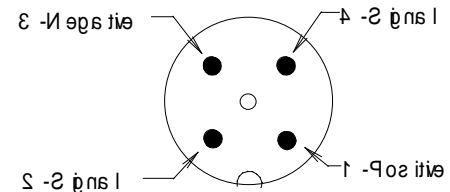
- 5 Pole Versions

- 1 = Positive
- 3 = Negative
- 2 = Signal 1
- 4 = Signal 2
- 5 = Ground

M s e F n n V e w



F e m s e F n n V e w



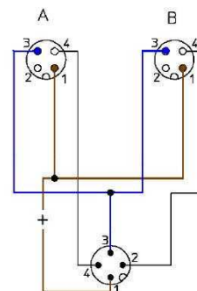
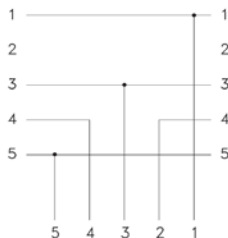
M12 Connector Assemblies

- 3, 4, 5 or 8 pole versions
- Male or female
- Straight or right angle
- PVC, Shielded or PUR cable
- Standard Length 3 meters (1meter for double ended)
- 2 or 3 LED's for PNP or NPN switch indication



M12 “Y” and “T” & Triple Connectors

- The “Y”, “T”, and Triple assemblies and connectors are designed to expand the ports on hard wired distribution boxes, by splitting the two individual wires into two connectors



M12 Field Wire Connectors

- 4, 5 or 8 pole versions
- Solder or screw terminals
- Straight or right angle
- Single or dual cable entry
- New 12 Pole version



M12 Panel Mount Connectors

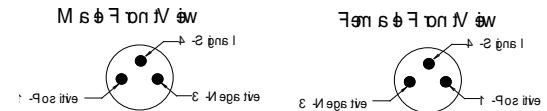
- 4, 5 or 8 pole versions
- Female or male connectors
- Front or back mounting
- Solder or PCB connections or pre-wired



M8 Connector Wiring

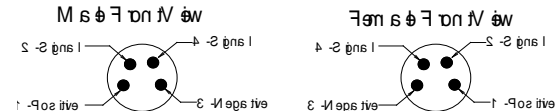
● 3 Pole Versions

- 1 = Positive
- 3 = Negative
- 4 = Signal



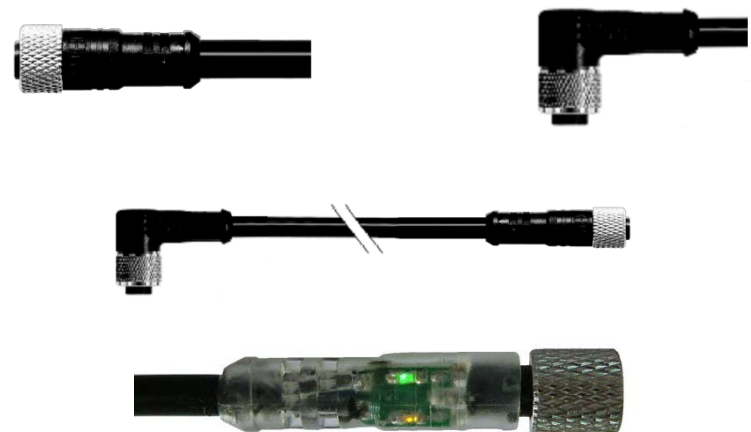
● 4 Pole Versions

- 1 = Positive
- 3 = Negative
- 2 = Signal 1
- 4 = Signal 2



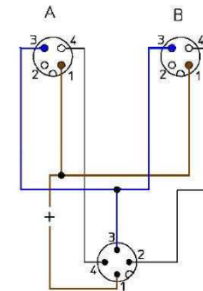
M8 Connector Assemblies

- 3 or 4 pole versions
- Male or female
- Straight or right angle
- PVC, Shielded or PUR cable
- Standard Length 3 meters (1meter for double ended)
- 2 LED's for PNP or NPN switch indication



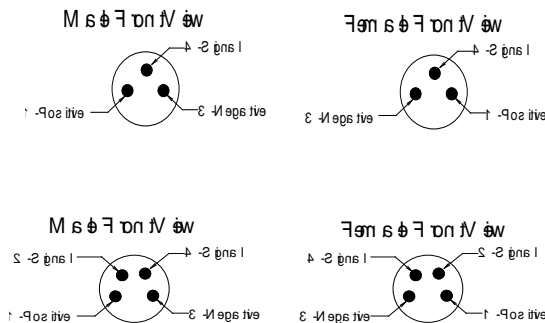
M8 “Y” Assemblies

- Both the “Y” assemblies are designed to expand the ports on hard wired distribution boxes, by splitting the two individual wires into two connectors



M8 Field Wire Connectors

- 3 or 4 pole versions
- Solder or screw terminals
- Straight or right angle



- 3 Pole Versions
 - 1 = Positive
 - 3 = Negative
 - 4 = Signal
- 4 Pole Versions
 - 1 = Positive
 - 3 = Negative
 - 2 = Signal 1
 - 4 = Signal 2

M8 Panel Mount Connectors

- 3 or 4 pole versions
- Female or male connectors
- Front mounting
- Solder or PCB connections or pre-wired



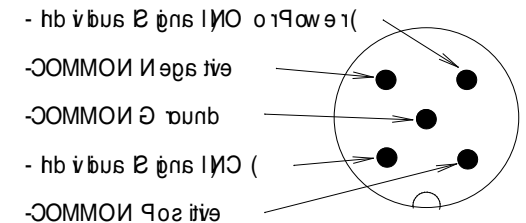
Distribution Boxes



- Distribution Boxes eliminate the need to run multiple cables back to the control panel and create a “plug and play” system
- Used for both input & output devices
- Commons within the box reduces wiring time at the control panel
- Designed around the standard wiring used for the connectors. Common wiring (to each connector position) is provided for positive, negative and ground positions. Each connector has 2 individual wires available to transfer NO & NC position status for input devices or one wire can be used to provide separate power for output devices

M12 Distribution Boxes

- 5 pole M12 connector
- 4, 6 or 8 ports
- Self wire or molded main cable
- With or without LED indication for PNP or NPN sensors



M8 Distribution Boxes

- 3 & 4 pole M8 connector
- 6, 8, 10 or 12 ports
- Self wire or molded main cable
- With or without LED indication for PNP or NPN sensors



New Products

- 7/8 "MINI CHANGE"
 - 3, 4 and 5 poles
 - Field wireable connectors
 - Extension types
 - Molded cable
 - Panel mount



New Products-

Metri-Pack Connector

- Commercial Vehicles
- Automotive Assemblies
- IP 68
- 14A to 60A Current Capacity



New Products

Amphenol Circular Connector

- Proportional Valve Connections
- Measurement & Test Equipment
- 6 Pole, IP 65
- DIN 43653, EN 17500



New Products in Development

- M16 & M23 Connectors and Assemblies



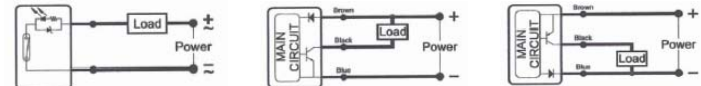
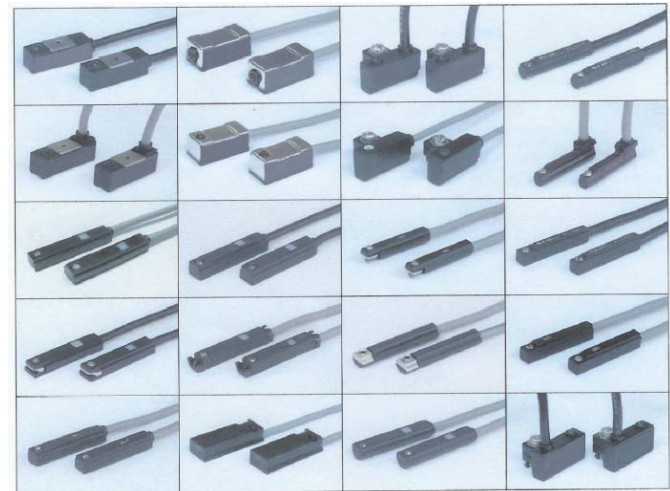
New Products

- DIN/M12
 - 4 and 5 poles
 - Industrial Form B w dual ground 12h & 6h



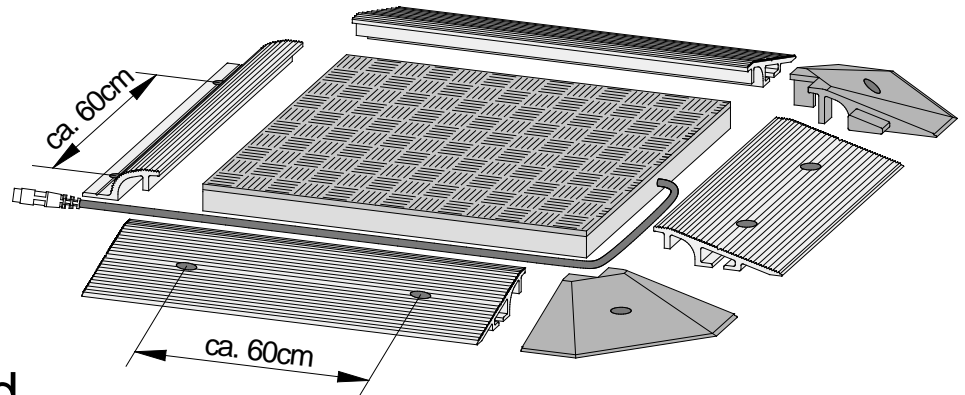
Magnetic Sensors

- For use with aluminum cylinders with target magnetic
- Available in dry contact (reed switches) or solid state (PNP or NPN)
- With many different mounting and body styles
- With molded cable, M12 or M8 connection

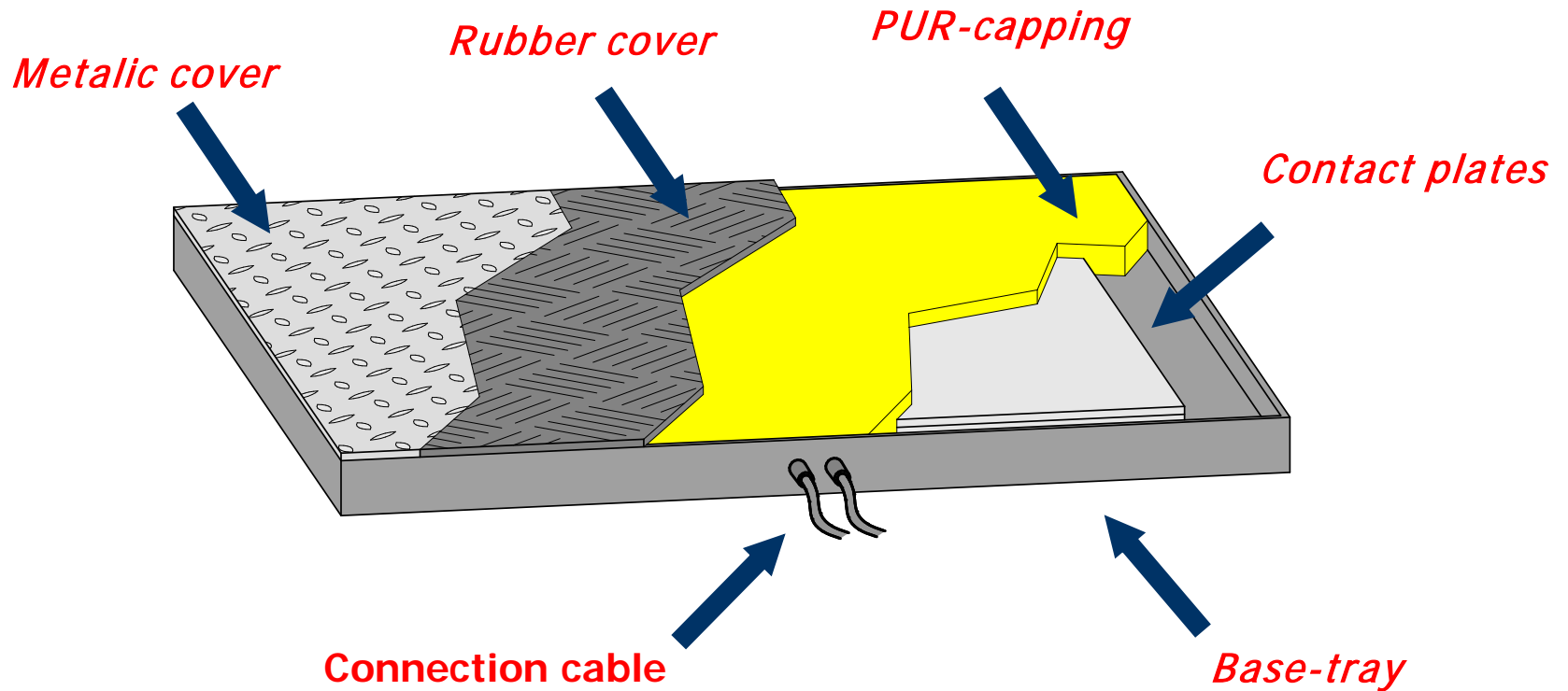


Safety Mats

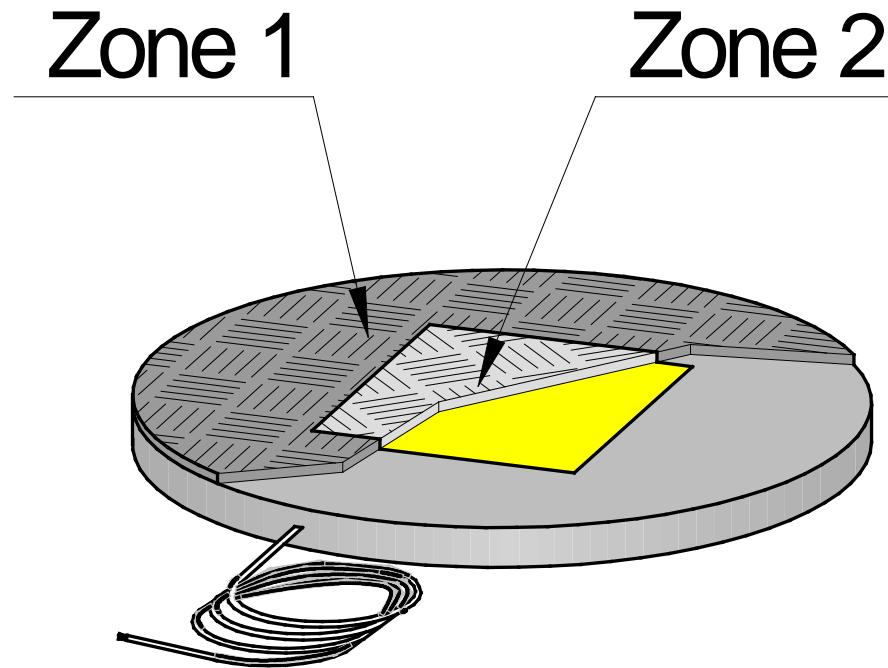
- Very rugged construction
- Fully encapsulated
- Plate technology with hard durometer plastic spacers
- Custom sizes & shapes
- Several surfaces available including:
 - NBR & EPDM Checked
 - NBR & EPDM Euro Dot
 - Aluminum Diamond Plate
 - Stainless Steel Diamond Plate



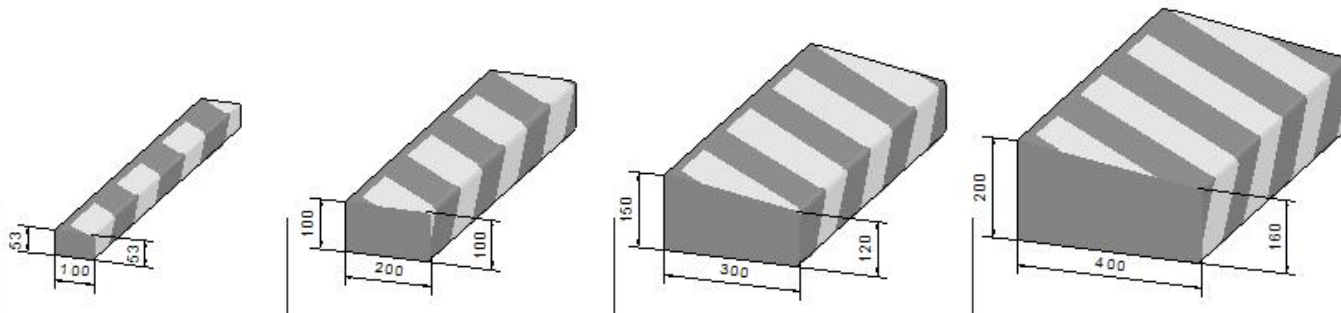
Safety Mat Construction



Two Zone Mats



Safety Bumper Overview





NORSTAT INC.

Thanks-you for your interest!

***YOUR SOURCE FOR MACHINE SAFETY
AND AUTOMATION PRODUCTS***



NORSTAT INC.