

Electromechanical Limit Switches

Beyond the limits in performance,
durability and innovation



Make the most of your energySM

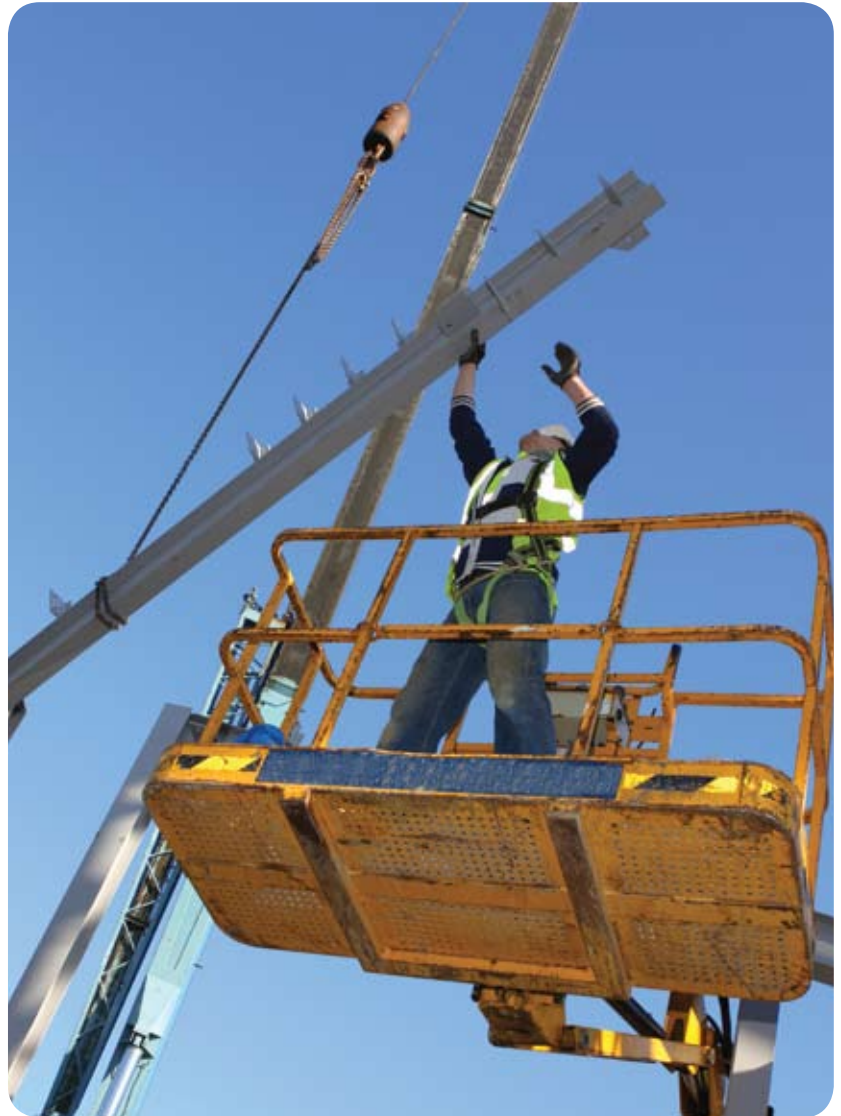
Schneider
Electric

Miniature & Compact Limit Switches

Beyond the limits – a big selection of little switches!

Our line of compact limit switches includes compact switches for general-, medium- and heavy-duty applications, and each is available with a variety of contact configurations, operating heads and lever arms. There are even versions for safety applications, automated applications and environments with a high incidence of shock and vibration. Our miniature and compact switches meet the International Electrotechnical Commission (IEC) standards and are accepted globally. In addition, our compact line meets domestic and international standards, including NEMA, UL, CSA, VDE and more.





XCKD, XCKN, XCKP, XCKT, XCNR and XCMD/N Osisense® Limit Switches

Compact: The most versatile, flexible and cross-functioning switches, the footprints match similar IEC switches available today allowing for easy retrofitting.

Flexible: With more than 5,000 interchangeable configurations available, the modular design reduces installation time. Heads and levers are adjustable and six options of conduit entries for metal or plastic bodies are offered, as well as an M12 quick-connect option. Removable contact blocks provide quick accessibility and hassle free wiring.

Simple: Hundreds of complete switches can be assembled from a few stock components, reducing selection time and inventory. Heads and levers are adjustable in 15-degree increments up to 360 degrees for precise and fast target alignment and

are installed or interchanged quickly by releasing a lever instead of loosening multiple screws. Damaged parts are easily replaced, saving you time and money over replacing the entire switch.

Economical: Osisense switches offer a more cost effective solution for high volume OEM's combined with high performance – up to 10 million operations – and proven reliability.

The XCKD/N/P/T, XCNR, and XCMD/N Osisense limit switches have enhanced contact safety with direct opening action contacts that meet IEC 947-5-1 requirements for positive opening contacts, positive lever-to-shaft positioning that ensure the direct opening feature and a manual reset option. Available in components or fully assembled from the factory.

→ Applications

- **Electric lift**
 - Lifting platforms
 - Elevators
 - Escalators
- **Packaging machinery**
 - Packaging machines
 - Shrink wrap machines
- **Food and beverage machinery**
 - Bottling
 - Textile

Miniature/Compact Limit Switches (continued)



XCKM/L/ML Osisense Limit Switches

Compact: The heavy-duty zinc die-cast enclosure switch is perfect for applications with limited space.

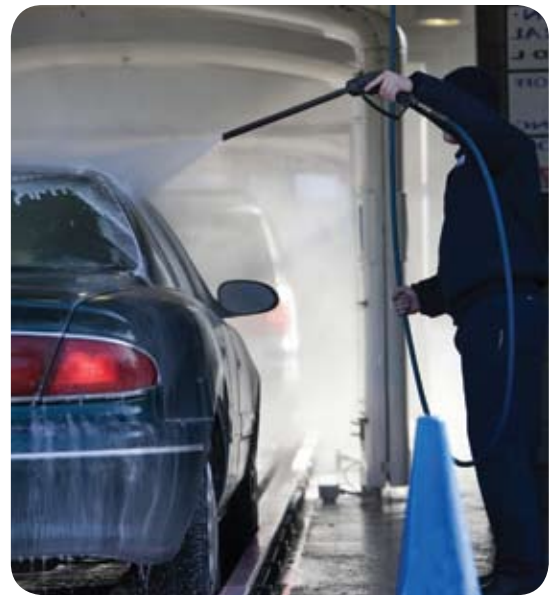
Flexible: The entire XCK switch family features a wide selection of contact configurations and a complete selection of operating heads and lever arms. Standard products are available with one conduit entry (bottom) XCKL, three conduit entries XCKM or two conduit entries plus two 2-pole contacts in the larger XCKML that features a metal body, with more available wiring space.

Simple: Products come fully assembled from the factory. They are easy to wire with removable contact blocks and come with standard size contact blocks with finger-safe terminals in a variety of configurations. The contact configuration choices include SPDT and 2 SPDT “snap action,” as well as 2 SPDT “slow break before make.”

In addition, the XCKM/L/ML Osisense limit switches have enhanced contact safety with direct opening action contacts that meet IEC 947-5-1 requirements for positive opening contacts, and a positive lever-to-shaft positioning that ensure the direct opening feature.

→ Applications

- **Material handling**
- **Simple machines**
 - Transportation wash
 - Assembly stations
 - General-purpose electric lifts



9007 MS/ML Limit Switches

Miniature: Meeting the need for very small, enclosed switches with environmental sealing, the Square D brand 9007 MS/ML limit switches have a full range of head styles and cord lengths available enclosed with a small die-cast zinc housing.

Flexible: The 9007 MS/ML limit switches have a full range of styles available, including top push plunger, parallel roller plunger, cross roller plunger, rotary lever and omni-directional whisker. Factory pre-wiring with industrial grade cable (type SJTO) eliminates the need to remove the cover to wire the switch. Bottom or side entrance cable connections and bottom or side connectors are available along with a symmetrical design and top mounting holes for easy gang mounting of several switches for multiple switching.

Rugged: The heavy-duty, completely encapsulated miniature MS limit switch includes a Viton® O-ring seal on the plunger that keeps liquids from entering the switch cavity and includes an epoxy compound seal around the electrical cable connections and switch housing. In addition, they are CSA certified, NEMA Type 6P and IP67 rated.

The 9007 MS limit switches also incorporate a sealed snap switch offering a 10 A continuous current rating or gold contacts for a low level logic switching. The switches carry the CE mark and are UL listed.

→ Applications

- Process machinery
 - Machine tools
- Earth-moving equipment
- Material handling
- Packaging machinery
- General transportation

Industrial-Duty Limit Switches

Beyond the limits – rugged and tough switches!

Rugged and tough, our switches are built to go the distance. Built with unparalleled quality, these heavy-duty switches can be applied with confidence that they will withstand the harshest environments. Like all of our limit switches, our industrial- and severe-duty line meets domestic and international standards, including NEMA, UL, CSA, IEC, VDE and more.





XCK-S Limit Switches

Flexible: Plastic heads and housings that use the same contacts that other XC limit switches use.

Simple: The contact configuration choices include SPDT and 2 SPDT “snap action,” as well as 2 SPDT “slow break before make.”

The XCK-S limit switches offer enhanced contact reliability with direct opening action contacts that meet IEC 947-5-1 requirements for positive opening contacts and a positive lever-to-shaft positioning to ensure the direct opening feature.

→ Applications

- **Material handling**
 - Conveyance
 - Carousels
 - Automatic storage/retrieval

XCK-J Limit Switches

Flexible: Modular components available with metal die-cast bodies and heads have plug-in and non-plug-in body styles with 0.5 in. NPT (metric available) conduit entry standards. With a wide variety of heads and lever styles to choose from, the XCK-J switches offer precision sensing for many industrial applications with excellent repeatability of 0.0004 in. (0.01 mm).

Simple: The contact configuration choices include SPDT and 2 SPDT “snap action,” as well as 2 SPDT “slow break before make.”

The XCK-J limit switches offer enhanced contact reliability with direct opening action contacts that meet IEC 947-5-1 requirements for positive opening contacts and a positive lever-to-shaft positioning to ensure the direct opening feature. Available in components or fully assembled from the factory.

→ Applications

- **Process machinery**
 - Machine tools
 - Plastic, rubber and molding
 - Printing
 - Textile
 - Pulp, paper and wood



Industrial-Duty Limit Switches (continued)



9007 C Limit Switches

Flexible: With five bodies, 20 heads and more than 200 lever styles, Square D brand 9007 C heavy-duty limit switches are easy to install, versatile and offer a wide range of options, including a complete choice of enclosures to meet virtually any application.

Simple: The modularity of the 9007 C limit switch makes maintenance a breeze with variable components, plug-in body styles and over 80 modifications and options available to meet specific application needs.

Rugged: These heavy-duty switches can be applied with confidence that they will withstand the harshest environments. They feature the largest diameter shaft in the industry, with a Viton Quadring shaft seal to ensure positive head and shaft sealing that is dust and water tight. Enclosure ratings are IP67 NEMA 6P, 13 and 4. Options are available to completely seal the conduit entry and wiring to the contact block.

The standard 9007 C heavy-duty limit switch is NEMA A 600, 600 V, 10 A continuous and is UL listed, CSA certified, and CE marked. An available option in the 9007 C52, C54 and CR53 limit switches is a “slow make-slow break” direct opening normally closed (N.C.) contact. This contact meets the requirement for positive opening per IEC 947-5-1. These switches also meet the IEC 947-5-1 requirements for positive opening, N.C. contacts.

→ Applications

- **Process machinery**
 - Machine tools
 - Plastic, rubber and molding
 - Printing
 - Textile
 - Pulp, paper and wood

9007 T/9007 FT Limit Switches

Rugged: Square D brand 9007 Type T/FT switches have extended operating and reset forces and heavy-duty contacts that will break 20 A @ 120 VAC. They also feature an ambient temperature range of up to 220° F and a die-cast zinc lever arm with hardened oil-impregnated sintered iron rollers.

Flexible: With 15 different contact operating sequences, the 9007 Type T/FT may be field converted to ensure responsive delivery of required sequences.

Foundry Version: The 9007 FT limit switch has a modified housing and an extra long shaft bearing that makes these switches extremely rugged and suitable for foundry applications. They are designed to prevent lever arm jamming due to sand build-up and can withstand falling sand up to 300° F. The 9007 T/FT enclosures are NEMA rated Types 1, 2, 4, 12, 13 and IP 65, 66, 67.

Extremely rugged device with contacts rated 20 A resistive and continuous AC and DC, designed to make and break 20 A at 120 VAC. The switches carry the CE mark and are UL listed.

→ Applications

- Mill and foundry
 - Iron and steel
 - Cement and glass

L100/300 Limit Switches

Flexible: With an extended range of options, L100/300 switches have more than 80 contact operating sequences and are available in 2-pole and 3-pole configurations, including spring return, maintained, neutral position and two-step versions. A choice of connector options are available including straight male 4-pin, 90 degrees male 4-pin, and mini-style male receptacle. Sealed female plugs and cables are also offered.

Foundry Version: The L300 limit switch has an extra long shaft bearing that makes these switches extremely rugged and suitable for foundry applications. They are designed to prevent lever arm jamming due to sand build-up and can withstand falling sand up to 300° F. The L100 and L300 enclosures are NEMA rated Types 1, 2, 4, 12, 13 and IP 65, 66, 67.

Options are available for high temperature of 350° F to a low temperature of -20° F and high shock and vibration. Extremely rugged device with contacts rated 20 A resistive and continuous AC and DC, designed to make and break 20 A at 120 VAC. The switches carry the CE mark and are UL listed.









→ Applications

- Mill and foundry
 - Iron and steel
 - Cement and glass



Limit Switches Selection Guide

Applications by Market Segment







	XCKP, XCKN, XCKT, XCKD, XCNR	XCKM, XCKL, XCKML	XCMD, 9007 MS/ML	XCKS	9007 AW	XCKJ, 9007 C	L100/L300, 9007 T/FT	XCR, 9007 CLS
Products								
Market Segments and Specific Applications	Electric Lifts <ul style="list-style-type: none"> Lifting platforms Elevators Escalators 	Simple Machines <ul style="list-style-type: none"> Transportation wash Assembly stations General purpose 	Packaging Machinery <ul style="list-style-type: none"> Packaging machines Shrink wrap Food and Beverage Machinery <ul style="list-style-type: none"> Bottling Canning Process Machinery <ul style="list-style-type: none"> Machine tools Plastic, rubber and molding Printing Textile Pulp, paper and wood 	Material Handling <ul style="list-style-type: none"> Conveyance Carousels Automatic storage/retrieval 	Process Machinery <ul style="list-style-type: none"> Machine tools Plastic, rubber and molding Printing Textile Pulp, paper and wood 	Process Machinery <ul style="list-style-type: none"> Machine tools Plastic, rubber and molding Printing Textile Pulp, paper and wood 	Mill and Foundry <ul style="list-style-type: none"> Iron and steel Cement and glass Material Handling <ul style="list-style-type: none"> Conveyance Carousels Automatic storage/retrieval 	Crane and Hoist <ul style="list-style-type: none"> Overhead cranes Transport systems

60 years

For over 60 years, Schneider Electric has pushed beyond the limits of performance and innovation with our electromechanical limit switch offering and has been a leading supplier of quality limit switches.



Special Applications

	XEP	9007 A	9007 CR	XCR, XCKMR, XC1AC	L143/L2153	9007 AW
Products						
Application	Snap switches	Snap switches	Hazardous application locations: gases (explosion), dust environment	For hoisting, mechanical handling and conveyer belt shift monitoring	For hoisting, mechanical handling and conveyer belt shift monitoring	Precision switching
Description	<p>Miniature snap switches incorporate a C/O snap-action, single-break contact</p> <ul style="list-style-type: none"> • High electrical ratings for their very small size • Short tripping travel • Low tripping force • High repeat accuracy on the tripping points • Long service life 	<p>Basic contact mechanisms, with or without operators, for use where separate enclosures are not required;</p> <p>Broad selection of operator styles and contact arrangements in 10 A and 15 A versions</p>	<p>UL listed for Hazardous Location Division 1.</p> <p>Class I Groups B, C, D</p> <p>Class II Groups E, F, G</p>	<p>Conveyer belt limit switches are ideal for policing the lateral movement of belt conveyors</p>	<p>Cable pull variations (fixed sequence) for use in warning alarm systems</p>	<p>Oil-tight, precision industrial switch; micrometer adjustment on plunger versions</p>



Schneider Electric provides a variety of devices that are well known and used worldwide. With a broad range of options and accessories we provide virtually unlimited flexibility and an unmatched level of reliability meeting both domestic and international requirements with our comprehensive line of industrial, heavy-duty, compact, miniature and application specific limit switches.

All of our limit switches carry the CE mark and meet domestic and international standards including NEMA, UL, CSA, IEC, VDE and more.




Product Selection by Primary Product Families

Product	Format	Description	Contacts	Enclosure	Temperature Rating	Additional Benefits
 <p>9007 C52</p>	<ul style="list-style-type: none"> • Heavy duty • U.S. format • Metal body 	Compact, plug-in industrial switch feature versatility to meet most applications.	<ul style="list-style-type: none"> • SPDT, DPDT: NEMA A600 	<ul style="list-style-type: none"> • NEMA Types: 1, 2, 4, 6, 6P, 12 and 13 	<ul style="list-style-type: none"> • 20° F to +185° F (-29° C to +85° C) • Low temp version available to -40° F 	20 operating heads, more than 200 arms, five body styles including compact, and hazardous locations.
 <p>XCKD</p>	<ul style="list-style-type: none"> • Heavy duty • IEC standard EN50047 • Metal body 	Compact, metal body switches for general- and medium-duty applications.	<ul style="list-style-type: none"> • SPDT: NEMA A300 • Meets IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 4, 12 and 13 • IEC Types: IP66 and IP67 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Slim metal body with full selection of 12 heads. Rugged construction for harsh applications.
 <p>XCKP</p>	<ul style="list-style-type: none"> • Light duty • IEC standard EN50047 • Plastic body 	Compact, plastic body switches for general- and medium-duty applications.	<ul style="list-style-type: none"> • SPDT: NEMA A300 • Meets IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 4, 12 and 13 • IEC Types: IP66 and IP67 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Slim body has double-insulated enclosure. Wide body has two conduit openings. Manual reset version for safety applications.
 <p>XCKL/M</p>	<ul style="list-style-type: none"> • Medium duty • Metal body 	Compact, general- and medium-duty switch in rugged metal enclosure.	<ul style="list-style-type: none"> • SPDT: NEMA A300 • Meets IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 4, 12 and 13 • IEC Types: IP66 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Compact metal body with full selection of 12 heads. ZCK-D heads include arms. ZCK-G heads accept any XCK-J style arm.
 <p>XCKN</p>	<ul style="list-style-type: none"> • Light duty • EN 60947-5-1 • Plastic body 	Compact, plastic body switches for general- and medium-duty applications.	<ul style="list-style-type: none"> • SPDT, NEMA A300 Positive • Opening contacts 	IEC Type: IP 65	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Meets UL/CSA and major international approvals for export. Ideal for general and medium duty, OEM-specific applications.
 <p>XCNR</p>	<ul style="list-style-type: none"> • Light duty • EN 60947-5-1 • Plastic body 	Compact, plastic body switches for general- and medium-duty applications	<ul style="list-style-type: none"> • SPDT, NEMA A300 • Positive Opening contacts 	IEC Type: IP 65	<ul style="list-style-type: none"> • 13° F to +158° F (-25° C to +70° C) 	Meets UL/CSA and major international approvals for export. Ideal for general- and medium-duty, OEM specific applications.

Compact (general purpose)




Product Selection by Primary Product Families (continued)





Product	Format	Description	Contacts	Enclosure	Temperature Rating	Additional Benefits
 <p>9007 MS</p>	<ul style="list-style-type: none"> • Heavy duty • U.S. format • Metal body 	Miniature enclosed switches, potted and pre-wired with cable.	<ul style="list-style-type: none"> • SPDT Form C: NEMA A300 • SPDT Form Z: NEMA A300 	<ul style="list-style-type: none"> • NEMA Types: 1, 2, 4, 6, 6P, 12 and 13 • IEC Types: IP67 	<ul style="list-style-type: none"> • -40° F to +221° F (-40° C to +105° C) • Extended temp range version available 	Bottom or side cable entry and strain relief. Connector options available. Full range of 12 operating heads.
 <p>XCMD</p>	<ul style="list-style-type: none"> • Heavy duty • Euro format • Metal body 	Miniature enclosed, pre-wired switches designed to meet international standards.	<ul style="list-style-type: none"> • SPDT: NEMA C300 standard snap-action contacts • SPDT: NEMA C300 slow break before make contacts meet IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 2, 4, 6, 6P, 12 and 13 • IEC Types: IP66, IP67 and IP68 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Meets UL/CSA and major international approvals for export. Ideal for harsh machine tool applications.
 <p>XCMN</p>	<ul style="list-style-type: none"> • Light duty • Plastic body 	Miniature enclosed, pre-wired switches designed to meet international standards.	<ul style="list-style-type: none"> • SPDT: NEMA B300 standard snap-action, positive opening contacts • SPDT: NEMA B300 slow break before make contacts meet IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 2 and 13 • IEC Types: IP65 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Meets UL/CSA and major International approvals for export. Ideal for harsh machine tool applications.

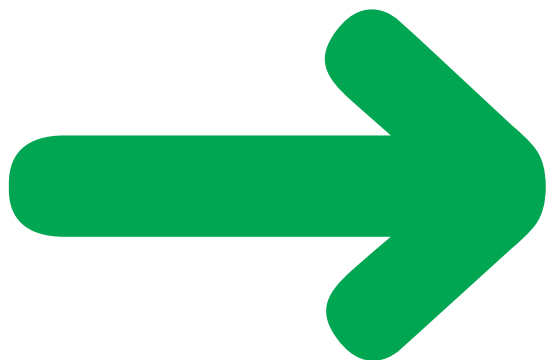
Miniature (protected industrial switches)

Standard Industrial (Classic NEMA Style)

Product	Format	Description	Contacts	Enclosure	Temperature Rating	Additional Benefits
9007 C 	<ul style="list-style-type: none"> • Heavy duty • U.S. format • Metal body 	Heavy-duty, precision industrial switch featuring versatility to meet most applications.	<ul style="list-style-type: none"> • SPDT, DPDT: NEMA A600 	<ul style="list-style-type: none"> • NEMA Types: 1, 2, 4, 6, 6P, 12 and 13 	<ul style="list-style-type: none"> • 20° F to +185° F (-29° C to +85° C) • Low temp version available to -40° F 	20 operating heads, more than 200 arms, five body styles including compact, and hazardous locations.
XCKJ 	<ul style="list-style-type: none"> • Heavy duty • IEC standard EN 50041 • Metal body 	Heavy-duty, precision industrial switch designed to meet international standards.	<ul style="list-style-type: none"> • SPDT, 2 SPDT: NEMA A300 • Meets IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 4, 6, 12 and 13 • IEC Types: IP66 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Meets UL/CSA and major International approvals for export requirements. Very accurate design with repeatability of 0.0004 in.
XCKS 	<ul style="list-style-type: none"> • Medium duty • IEC standard EN 50041 • Plastic body (same style, not heavy duty) 	Plastic, precision industrial switch designed to meet international standards.	<ul style="list-style-type: none"> • SPDT, 2 SPDT: NEMA A300 • Meets IEC 947-5-1 for positive opening contacts 	<ul style="list-style-type: none"> • NEMA Types: 1, 2 and 13 • IEC Types: IP65 	<ul style="list-style-type: none"> • -13° F to +158° F (-25° C to +70° C) 	Standard plastic body has double-insulated enclosure.

Severe Duty (Mill and Foundry)

Product	Format	Description	Contacts	Enclosure	Temperature Rating	Additional Benefits
9007 T/FT 	<ul style="list-style-type: none"> • Severe duty • U.S. format • Metal body 	Heavy-duty mill and foundry switch for very rugged applications.	<ul style="list-style-type: none"> • SPDT quick make • SPDT slow make-slow break • 20 A continuous rating 	<ul style="list-style-type: none"> • NEMA Types: 1, 2, 4, 12 and 13 	<ul style="list-style-type: none"> • -10° F to +185° F (-29° C to +85° C) • Withstands +300° F falling sand 	Extremely rugged device designed to break 20 A at 120 VAC. Available with 15 field-convertible contact sequences.
L100/300 	<ul style="list-style-type: none"> • Severe duty • U.S. format • Metal body 	Heavy-duty mill and foundry switch with extended selection of operating sequences.	<ul style="list-style-type: none"> • SPDT with two or three contacts: NEMA A600 	<ul style="list-style-type: none"> • NEMA Types: 1, 4 and 13 	<ul style="list-style-type: none"> • 0° F to +200° F (-18° C to +93° C) • Extended temp version available 	More than 80 contact sequences in two or three circuit arrangements. Options include high or low temperature and high shock.



Let Schneider Electric put these capabilities to work for you.

> Focused on your needs

Schneider Electric offers a full range of application specific products that include snap switches, hazardous locations products, as well as products for hoisting, mechanical handling and conveyer belt shift monitoring, precision and low current switching. Like all of our limit switches, our special application line meets domestic and international standards, including NEMA, UL, CSA, IEC, VDE and more.

> A worldwide presence

Schneider Electric is a global supplier of electrical distribution, automation and control equipment products. Backed by a global organization of 90,000 employees in 190 countries, Schneider Electric is a global electrical industry leader. With one of the strongest distribution networks in the U.S. and around the world, you can count on Schneider Electric to keep your business running smoothly and efficiently.

Assembled in North America, the full line of limit switches can be modified and adapted to fit your applications.

> Technical assistance wherever you are

- Our technicians are available to assist you in finding the optimum solution for your needs
- Schneider Electric provides you with all necessary technical assistance, throughout the world

> Product Modifications

Don't see exactly what you want? Do you need something slightly different to solve your application? Schneider Electric has an entire product modification department dedicated to the customization of products. Some examples of limit switch modifications include:

- Bulk packaging for your convenience
- Head or arm rotation to save installation time
- Custom cable lengths to meet your exact needs
- Pigtail connectors for plug and play installation
- Special labeling or paint to match your product offering

We partner with our customers who may need special electrical characteristics, testing or design changes. Contact your local sales engineer to explore the possibilities!

www.schneider-electric.com.us

For non-contact sensors visit www.sesensors.com

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