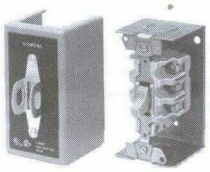
Switches[1], Class MMS, MRS



Class MMS
Motor Starter Switch

Ordering Information

- Accessories see page 34.
- Dimensions see pages 35–36.
- Wiring Diagrams see page 32.
- Application Data see page 32.

Horsepower Ratings

Device	No of Poles	Motor Type AC	Maximum HP 115V	230V	450–575V	DC Ratings 90V	115V	230V
Class MMS	2	Single Phase	2	2	3	1	2	1½
	3	Three Phase	2	7½	10	1	2	1½
Class MRS Reversing	2	Single Phase	2	2	3	1	2	1½
	3	Three Phase	2	7½	10	1	2	1½
Class MMS Two Speed	2	Single Phase	2	2	3	1	2	1½
	3	3 Phase, Constant or Variable Torque	2	7½	10	1	2	1½
	3	3 Phase, Constant Horsepower	2	7½	10	1	2	1½

Basic Switch—Class MMS, 1 Phase, 3 Phase

Type of Operator	No. of Poles	Features	Open Type		General Purpose Flush Mounting (Open with Flush Plate) Gray Flush Plate		Standard Stainless Steel Flush Plate		Jumbo Stainless Steel Flush Plate		NEMA Type 1 General Purpose Enclosure Surface Mounting Standard		Oversized		NEMA Type 3R, 4 and 12 Watertight, Dust-tight		NEMA Type 4[2] Watertight, Dust-tight Metallic Enclosure		NEMA Type 7 & 9[2] Class I Groups B, C & D & Class II Groups E, F, G Enclosures	
			Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $	Catalog No	Price $
Toggle	2	Standard—With Pilot Light:	MMSK01	28.00	MMSKF1	32.00	MMSKS1	36.00	—	—	MMSKG1	36.00	MMSKGJ1	43.50	MMSKWN1	152.00	MMSKW1	169.00	MMSKR1	185.00
		115V AC	MMSK01A[3]	67.00	MMSKF1A	71.00	MMSKS1A	74.00	MMSKSJ1A	86.00	MMSKG1A	74.00	MMSKGJ1A	82.00	MMSKWN1A	190.00	MMSKW1A	231.00	—	—
		230V AC	MMSK01B[3]	67.00	MMSKF1B	71.00	MMSKS1B	74.00	MMSKSJ1B	86.00	MMSKG1B	74.00	MMSKGJ1B	82.00	MMSKWN1B	190.00	MMSKW1B	231.00	—	—
	3	Standard—With Pilot Light:	MMSK02	73.00	MMSKF2	77.00	MMSKS2	81.00	—	—	MMSKG2	81.00	MMSKGJ2	89.00	MMSKWN2	190.00	MMSKW2	208.00	MMSKR2	227.00
		115V AC	MMSK02B[3]	112.00	MMSKF2B	116.00	MMSKS2B	119.00	MMSKSJ2B	131.00	MMSKG2B	119.00	MMSKGJ2B	127.00	MMSKWN2B	252.00	MMSKW2B	270.00	—	—
		230V AC	MMSK02C[3]	112.00	MMSKF2C	116.00	MMSKS2C	119.00	MMSKSJ2C	131.00	MMSKG2C	119.00	MMSKGJ2C	127.00	MMSKWN2C	252.00	MMSKW2C	398.00	—	—
Key	2	Standard—With Pilot Light:	MMSK03	43.50	MMSKF3	47.50	MMSKS3	51.00	—	—	MMSKG3	51.00	MMSKGJ3	62.00	MMSKWN3	167.00	—	—	—	—
		115V AC	MMSK03A	82.00	MMSKF3A	86.00	MMSKS3A	90.00	MMSKSJ3A	100.00	MMSKG3A	90.00	MMSKGJ3A	96.00	MMSKWN3A	205.00	—	—	—	—
		230V AC	MMSK03B	82.00	MMSKF3B	86.00	MMSKS3B	90.00	MMSKSJ3B	100.00	MMSKG3B	90.00	MMSKGJ3B	96.00	MMSKWN3B	205.00	—	—	—	—
	3	Standard—With Pilot Light:	MMSK04	114.00	MMSKF4	92.00	MMSKS4	96.00	—	—	MMSKG4	96.00	MMSKGJ4	104.00	MMSKWN4	212.00	—	—	—	—
		208–240V AC	MMSK04B	127.00	MMSKF4B	131.00	MMSKS4B	135.00	MMSKSJ4B	146.00	MMSKG4B	135.00	MMSKGJ4B	143.00	MMSKWN4B	273.00	—	—	—	—
		440–600V AC	MMSK04C	127.00	MMSKF4C	131.00	MMSKS4C	135.00	MMSKSJ4C	146.00	MMSKG4C	135.00	MMSKGJ4C	143.00	MMSKWN4C	273.00	—	—	—	—

Reversing—Class MRS, 1 Phase, 3 Phase

Type of Operator	Number of Poles	Suitable Motor Types	Features (Including Mechanical Interlock)	Flush Mounting (Open with Flush Plate) Catalog No	Price $	NEMA Type 1 General Purpose Enclosure Surface Mounting Catalog No	Price $	Replacement Switch Class MRS Catalog No	Price $
Toggle	2	Single Phase 3-Lead Repulsion-Induction	Standard—	MRSKF11	146.00	MRSKG11	154.00	MRSK01T	36.00
			With Pilot Light: 115V AC—	MRSKF11A	208.00	MRSKG11A	216.00	MRSK01AT	74.00
			230V AC—	MRSKF11B	208.00	MRSKG11B	216.00	MRSK01BT	74.00
	3	Three Phase: Also Single Phase Capacitor, Split Phase, or 4-Lead Repulsion-Induction	Standard—	MRSKF22	231.00	MRSKG22	239.00	MRSK02T	81.00
			With Pilot Light: 110–120V AC—	MRSKF22A	293.00	MRSKG22A	300.00	MRSK02AT	119.00
			208–220V AC—	MRSKF22B	293.00	MRSKG22B	300.00	MRSK02BT	119.00
			440–600V AC—	MRSKF22C	293.00	MRSKG22C	300.00	MRSK02CT	119.00

Two Speed—Class MMS, 1 Phase, 3 Phase

Type of Operator	Number of Poles	Suitable Motor Types	Features (Including Mechanical Interlock)	Flush Mounting (Open with Flush Plate) Catalog No	Price $	NEMA Type 1 General Purpose Enclosure Surface Mounting Catalog No	Price $	Replacement Switch Class MRS Catalog No	Price $
Toggle	2	Single Phase Two Winding (3-Lead)	Standard—	MMSKF11	146.00	MMSKG11	154.00	MMSK01T	36.00
			With 2 Pilot Lights: 115V AC—	MMSKF11A	270.00	MMSKG11A	277.00	MMSK01AT	74.00
			230V AC—	MMSKF11B	270.00	MMSKG11B	277.00	MMSK01BT	74.00
	3	Three Phase Separate Winding (Wye-Connected)	Standard—	MMSKF22	231.00	MMSKG22	239.00	MMSK02T	81.00
			With 2 Pilot Lights: 208–240V AC—	MMSKF22B	354.00	MMSKG22B	362.00	MMSK02BT	119.00
			440–600V AC—	MMSKF22C	354.00	MMSKG22C	362.00	MMSK02CT	119.00

[1] Manual switches do not include overloads.

[2] Furnished with one ¾" pipe tap in bottom (reversible for top feed). In order to obtain ¾" pipe tap in top and bottom, add suffix letter "H" to type number and add **$15** to List Price.

[3] Do not use as replacement interiors for NEMA Type 4 metallic enclosures. For replacement unit, order Type MMSK01 or MMSK02 and separate pilot light kit.

North American Approvals

INSTALLATION CONSIDERATIONS

The control products described in this catalog have been designed, tested and manufactured in accordance with a wide variety of standards including but not limited to those issued by UL, CSA, NEMA and IEC. These standards typically apply to the control product as a component and not the installation or use of the product. It is the responsibility of the end user of the control product to make sure each installation complies with all of the applicable safety requirements, laws, regulations, codes and standards (some examples of which are the N.E.C., the C.E.C. and OSHA regulations). Note that local authorities may impose further jurisdiction over each installation. When in doubt, consult with the local inspection authorities.

Unless otherwise specified, the control products described in this catalog are designed to operate under "usual service conditions" as defined in NEMA Standards Publication—Part ICS 1-108. Open type devices are intended for installation in enclosures that provide environmental protection as needed for the specific application. See pages 14 and 15 for definitions of the various enclosure types.

PERFORMANCE DATA

Where given in this catalog, performance data should only be used as a guide to determine the suitability of the product for an application. The data may be the result of accelerated testing or elevated stress levels under controlled conditions. The user must take care in correlating this data to actual application or service conditions.

UL and CSA—File Numbers and Guide Card Numbers

Most control equipment listed in this catalog is designed, manufactured and tested in accordance with the relevant UL and CSA standards as listed in the table below.

Siemens Brand Devices Description	Guide No	File No	Guide No	File No	Guide No	File No
Control Relays 3TH2, 3TH3, 3TH8	Class 3211	LR 12730 LR 50487	NKCR	E 44653	NKCR2	E 44653
AC contactors, DC contactors	Class 3211	LR 12730	NLDX	E 31519	NLDX2	E 31519
Reversing Starters	Class 3211	LR 38590	NLDX	E 32529	—	—
Overload relays	Class 3211	LR 12730	NKCR	E 44653	NKCR2	E 44653
Terminal blocks	Class 3211	LR 50181	—	—	XCFR2	E 80027
Manual Motor Controller 3VU	Class 3211	LR 50487	NLVR	E 47705	—	—
Starters, Combination Starters	Class 3211	LR 38590	NLDX	E 32529	—	—
Push buttons	Class 3211	LR 12730	NCXR	E 44653, E 47512	—	—
Lighting and Heating Contactors	Class 3231	LR 38590	NRNT	E 60310	—	—
Mechanical Limit Switches						
International Style	Class 3211	LR 50487	NKCR	E 44653	NKCR2	E 44653
North American Style	Class 3211	LR 68551	NKCR	E 47512	—	—
Fast Bus Components/Kits	—	—	NMTR	E 155959	NMTR2	E 160776
Modular Motor Controllers Type E	—	—	NKJH	E 156943	—	—
Modular Motor Controllers—Group Installation	Class 3211	LR 50487	NLRV	E 47705	—	—
US Series Starter	Class 3211	LR 38590	NLDX	E 32529	—	—
Fraction Hp Starters, SMF, MMS	—	—	—	—	NLRV2	E 80332
Sirius 3RT Contactors	Class 3211	LR 12730	NLDX	E 31519	NLDX2	—
Sirius 3RV MSP—Group Installation	Class 3211	LR 12730	NLRV	E47705	—	—
Type E	—	—	NKJH	E 156943	—	—
Sirius 3RU Overload	Class 3211	LR 12730	NKCR	E 44653	NKCR2	E 44653
Sirius 3RH Relays	Class 3211	LR 12730, LR50487	NKCR	E 44653	NKCR2	E 44653
Sirius 3RP Timers	Class 3211	LR 12730	NKCR	E 44653	—	—
Miniature Circuit Breakers—5SX	Class 3211	LR 93659	—	—	NKCR2	E 116386
Manual Motor Controllers—3LD	Class 3211	LR 19188	NLRV	E 47705	—	—
Sirius 3RA Combination Starters	—	—	NKJH	E 156943	—	—
Sirius 3RA Reversing Contactors	Class 3211	LR 38590	NLDX	E 31519	—	—
Sirius 3RA Fastbus Combo Starters	—	—	NKJH	E 156943	—	—
Sirius 3RB Solid State Overloads	Class 3211	LR 6535	NKCR	E22655	—	—

Furnas Brand Devices Class	Guide No	File No	Guide No	File No	Guide No	File No
11, 12—Manual Switches	Class 3211	LR 6535	NLRV	E 10590	NLRV2	E 10590
14, 22, 30, 40, 43—Starters and Contactors	Class 3211	LR 6535	NLDX	E 14900	NLDX2	E 14900
17, 18, 25, 26, 32—Combination Starters	Class 3211	LR 6535	NKJH	E 185287	—	—
36, 37—Reduced Voltage Starters	Class 3211	LR 6535	NLDX	E 14900	NLDX2	E 14900
83, 84, 85, 87, 88—Pump Control Panels	Class 3211	LR 6535	NKJH	E 185287	—	—
50—Standard Duty Pilot Devices	Class 3211	LR 6535	NKCR	E 22655	—	—
51—Hazardous Location Pilot Devices	Class 3218	LR 23889	NOIV	E 39935	—	—
52—30 mm Pilot Devices	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
16, 41, 42, 45—Definite Purpose Controls	Class 3211	LR 6535	—	—	NLDX2	E 14900
46, 47— Relays	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
48, 948, 958—Overload Relays	Class 3211	LR 6535	NKCR	E 22655	NKCR2	E 22655
49—Field Kits	Class 3211	ELR 535	NLDX	E 14900	NLDX2	E 14900
Class 56—Fast Switch	Class 3211	LR 6535	NLRV	E 10590	—	—
Class 53—Master Switch	Class 3211	LR 6535	NKCR	E 22655	—	—
Class 69—Pressure Switch	Class 3211	LR 6535	NKPZ	E 14861	NKPZ2	E 14861

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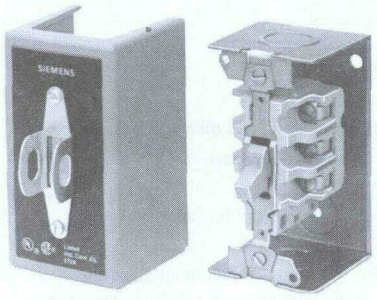

Class MMS Motor Starter Switch

Class MMS, MRS

Class MMS and MRS motor starting switches provide manual "ON-OFF" control of single or three phase AC motors, where overload protection is not required or is provided separately. Compact construction and a 600 volt rating make these switches suitable for a wide range of industrial and commercial uses. Typical applications include small machine tools, pumps, fans, conveyors and many other types of electrical machinery. They can also be used on non-motor loads such as resistance heating applications.

Continuous Current Rating

MMS & MRS: 30 amperes at 250 volts max, 26.4 amperes at 277 volts, 20 amperes at 600 volts max, 30 amperes resistive at 600 volts max. **Class 12:** 24 amperes, single phase and 15 amperes, three phase.

①Manual switches do not include overloads.

Two Speed—Class MRS

Two speed manual switches may be used with separate winding three phase or single phase AC motors, where overload protection is not required or is provided separately. Two switches are employed to give "ON-OFF" control in each speed.

Reversing—Class MRS

Reversing manual switches provide a compact means of starting, stopping and reversing AC motors, where overload protection is not required or is provided separately. They are suitable for use with three phase squirrel cage motors and for single phase motors which can be reversed by reconnecting motor leads. Two switches are used, one to connect the motor forward rotation and one for reverse.

Typical Wiring Diagrams—MMS and Class 12