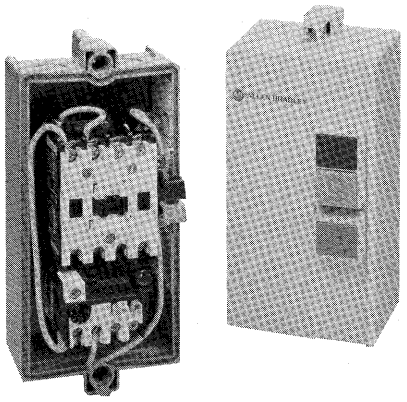
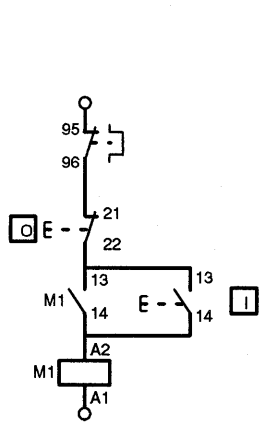
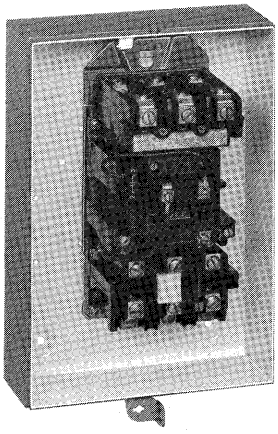
ALLEN-BRADLEY

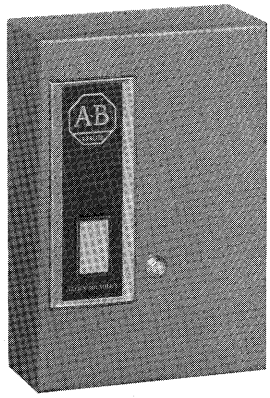
A Global Reference Guide for Reading Schematic Diagrams

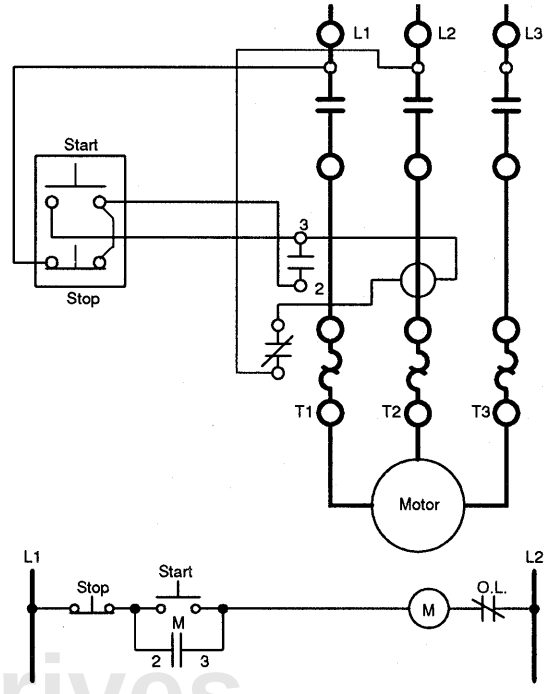
Product Data









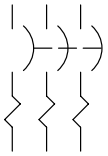
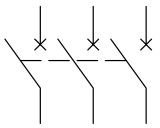
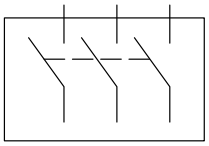
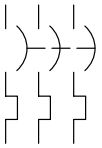
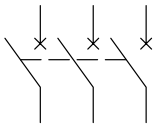
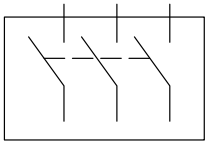
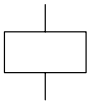
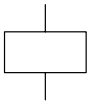


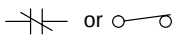
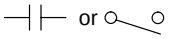
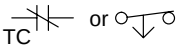
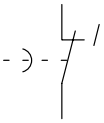
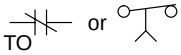
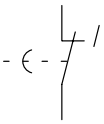
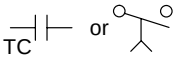
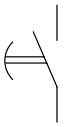
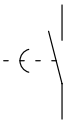
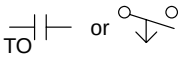
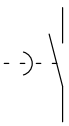
General. With the increasing emphasis on globalization, many industries are now looking to all parts of the world to produce, market and sell their products. Electrical manufacturers are no exception. Since the electrical standards adopted by various nations may vary, the markings and symbols used to describe electrical control products can also vary. Whether it is a complex control system on a machine tool or a simple across-the-line motor starter, the need to recognize and understand these symbols becomes more important. It is possible that products from all parts of the world are being used in any one facility.

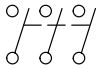
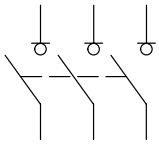
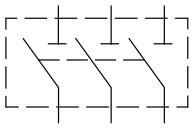
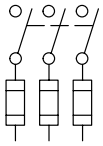
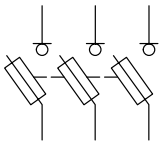
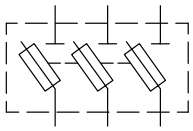
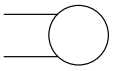
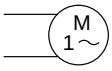
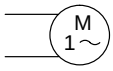
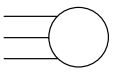
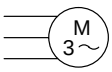
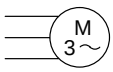
The purpose of this document is to provide a simple cross-reference of common schematic/wiring diagram symbols used throughout various parts of the world. The graphical symbols were taken from the following standards:

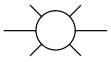
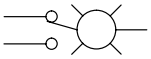
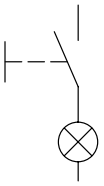
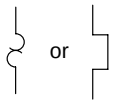
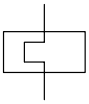
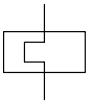
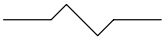
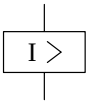
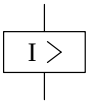
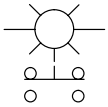
BS 3939.
CENELEC EN 50 013.
DIN 40700 to 40717.
EEMAC E14-3.
IEC 617-1 to 617-8.
NEMA ICS 1.

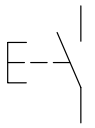
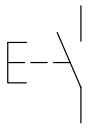
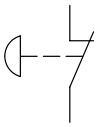
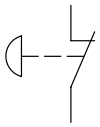
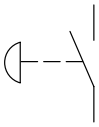
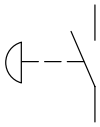
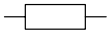
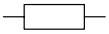
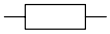
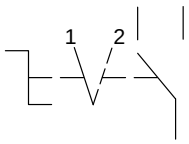
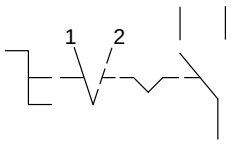
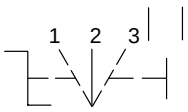
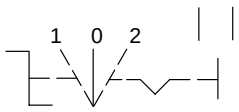
The following tables describe the device and show the symbol by area of usage.

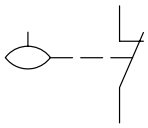
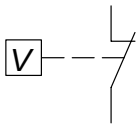
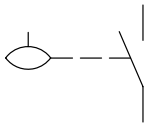
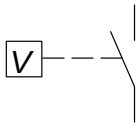
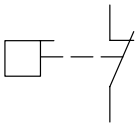
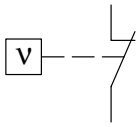
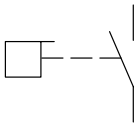
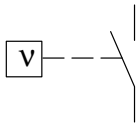
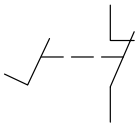
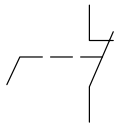
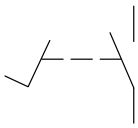
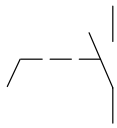
Description		US / Canadian	International / British	German
Capacitor				
Circuit Breaker	Magnetic Only			
	Thermal-magnetic			
Coil				

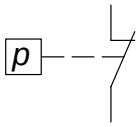
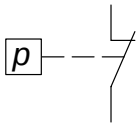
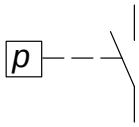
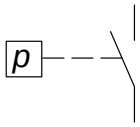
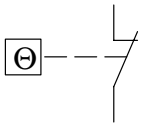
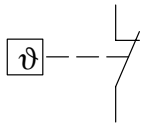
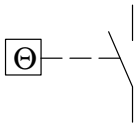
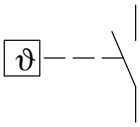
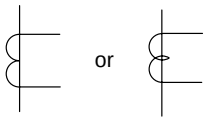
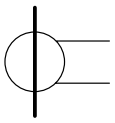
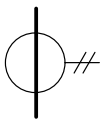
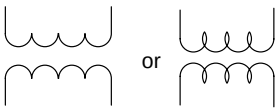
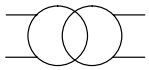
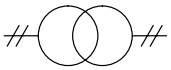
Description		US / Canadian	International / British	German
Basic Contacts	**Normally Closed**			
	Normally Open			
Time Delay Contacts	**N.C., Timed Closed**			
	N.C., Timed Open			
	N.O., Timed Closed			
	N.O., Timed Open			

Description		US / Canadian	International / British	German
Disconnect Switch	**Non-Fused**			
	Fused			
Fuse				
Ground				
Induction Motor	**Single Phase**			
	Three Phase			

Description		US / Canadian	International / British	German
Lights, Indicating	Standard	 Insert color code inside symbol	 Insert color code next to symbol	 Insert color code next to symbol
	Push-To-Test	 Insert color code inside symbol		 Insert color code next to symbol
Meters		 Insert function code inside symbol	 Insert function code inside symbol	 Insert function code inside symbol
Overload Relay	Thermal Element			
	Magnetic Element			
Push Button	Illuminated			
	Momentary (N.C.)			

Description		US / Canadian	International / British	German
Push Button	Momentary (N.O.)			
	Mushroom Head (N.C.)			
	Mushroom Head (N.O.)			
Resistor				
Selector Switch	2 Position		Letter Sym / Position: 1 2 A: X B: X		
	3 Position		Letter Sym / Position: 1 2 3 A: X B: X		

Description		US / Canadian	International / British	German
Switches	Float (N.C.)			
	Float (N.O.)			
	Flow (N.C.)			
	Flow (N.O.)			
	Foot (N.C.)			
	Foot (N.O.)			
	Limit (N.C.)			

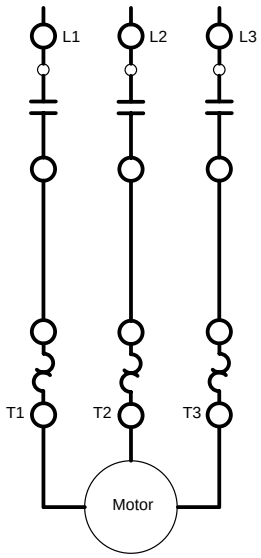
Description		US / Canadian	International / British	German
Switches	Limit (N.O.)			
	Pressure (N.C.)			
	Pressure (N.O.)			
	Temperature (N.C.)			
	Temperature (N.O.)			
Transformer	Current			
	Voltage			

Common Schematic Diagrams

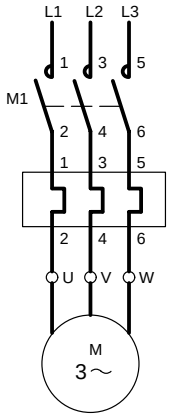
Across-the-Line Non-Reversing Starters with Start– Stop Push Buttons

Power Circuit

NEMA

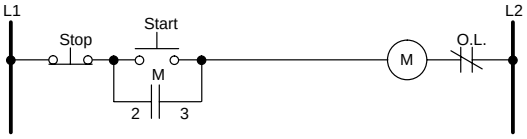


IEC



Control Circuit

NEMA



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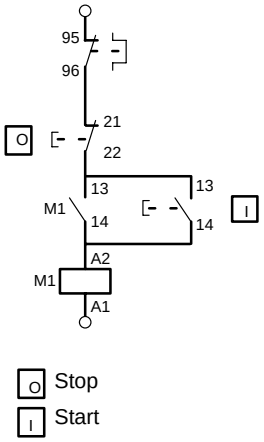
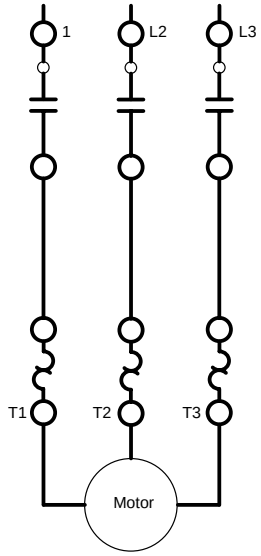


Common Schematic Diagrams

Across-the Line Non-Reversing Starters with Hand-Off-Auto Selector Switch

Power Circuit

NEMA



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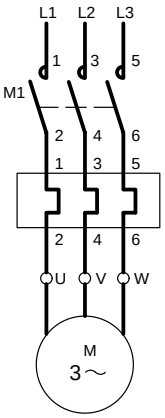
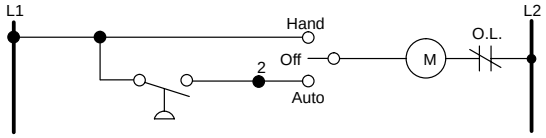


Control Circuit

NEMA



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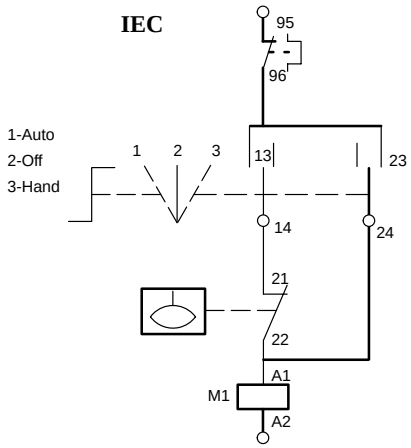
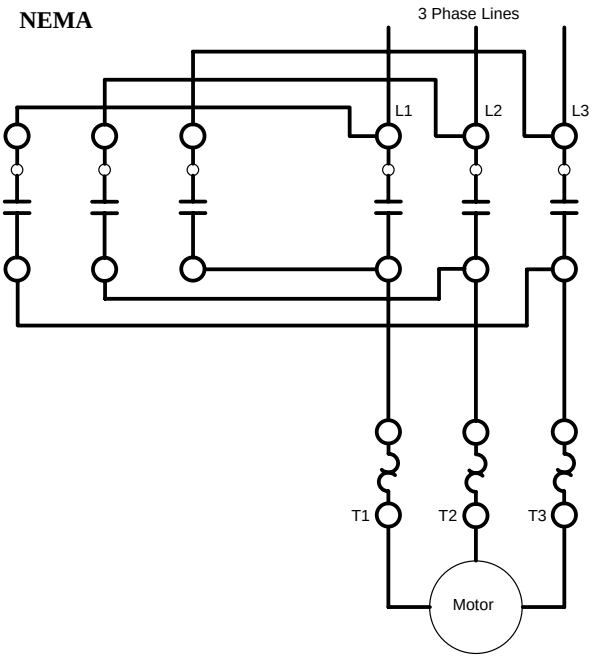


Common Schematic Diagrams

Across-the-Line Reversing Starters

Power Circuit

NEMA



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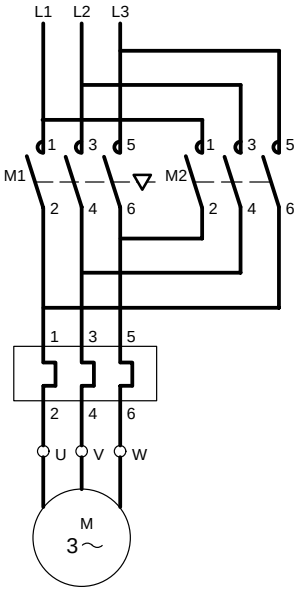
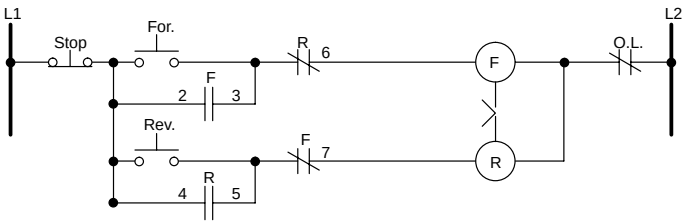


Control Circuit

NEMA



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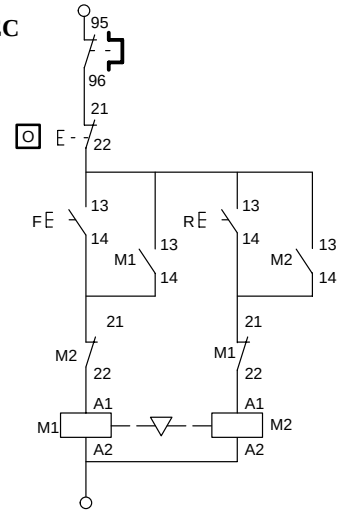
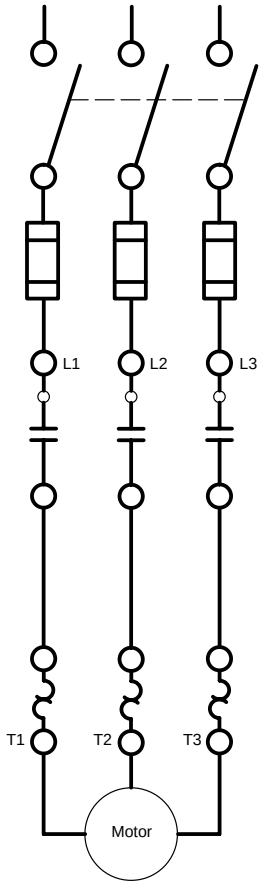


Common Schematic Diagrams

Combination Starter with Fused Disconnect Switch

Power Circuit

NEMA



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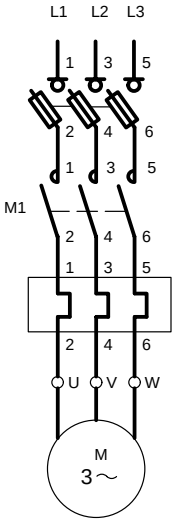
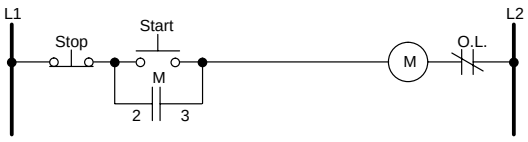


Control Circuit

NEMA



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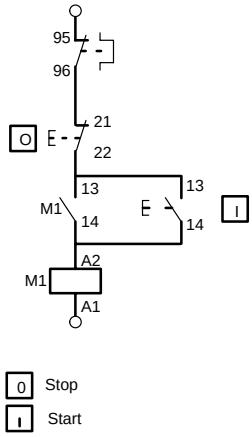


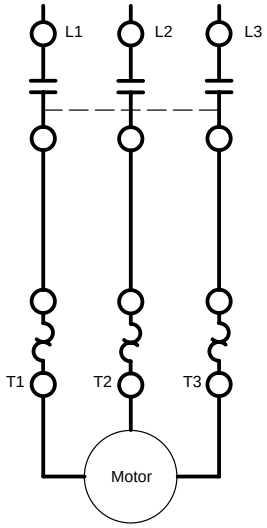
Common Schematic Diagrams

Manual Starter

1

Power Circuit

NEMA



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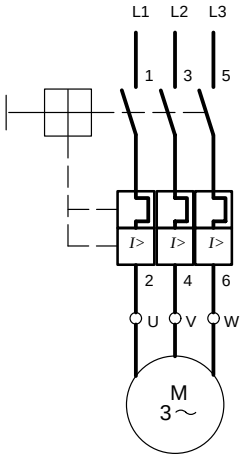

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EUROPE/MIDDLE EAST/ AFRICA HEADQUARTERS
Allen–Bradley Europe B.V.
Amsterdamseweg 15
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The Netherlands
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LATIN AMERICA HEADQUARTERS
Allen-Bradley
1201 South Second Street
Milwaukee, WI 53204 USA
Tel: (1) 414 382–2000
Telex: 43 11 016
FAX: (1) 414 382–2400

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