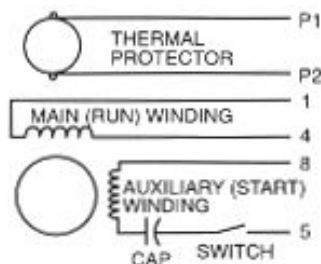


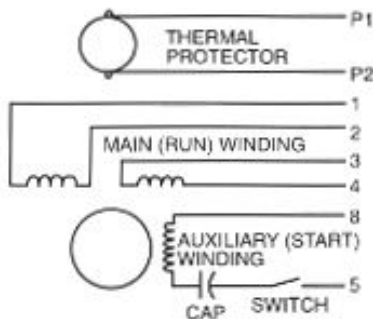
SINGLE-PHASE MOTORS-CAPACITOR-START NEMA NOMENCLATURE

SINGLE VOLTAGE



ROTATION	L1	L2
CCW	1,8	4,5
CW	1,5	4,8

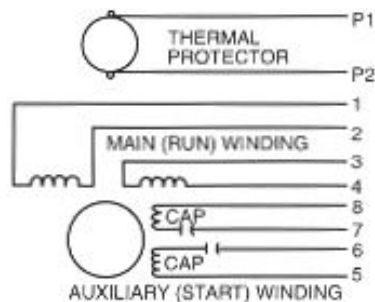
DUAL VOLTAGE (MAIN WINDING ONLY)



Auxiliary winding is always at low voltage rating; capacitor should be rated accordingly.

	ROTATION	L1	L2	JOIN
HIGH VOLTAGE	CCW	1	4,5	2&3&8
	CW	1	4,8	2&3&5
LOW VOLTAGE	CCW	1,3,8	2,4,5	—
	CW	1,3,5	2,4,8	—

DUAL VOLTAGE (MAIN AND AUXILIARY WINDING)



Capacitors in auxiliary windings are rated for lower voltage.

	ROTATION	L1	L2	JOIN
HIGH VOLTAGE	CCW	1,8	4,5	2&3,6&7
	CW	1,5	4,8	2&3,6&7
LOW VOLTAGE	CCW	1,3,6,8	2,4,5,7	—
	CW	1,3,5,7	2,4,6,8	—

The switch in the auxiliary winding circuit has been omitted from this diagram. The connections to the switch must be made so that both auxiliary windings become de-energized when the switch is open.

ROTATION: CCW – Counter-Clockwise
CW – Clockwise

The direction of shaft rotation can be determined by facing the end of the motor opposite the drive.

TERMINAL MARKINGS IDENTIFIED BY COLOR:

1-Blue 5-Black P1-No color assigned
2-White 6-No color assigned P2-Brown
3-Orange 7-No color assigned
4-Yellow 8-Red

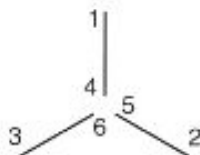
NEMA Standards MG 1-2-41.

TERMINAL MARKINGS AND CONNECTIONS THREE-PHASE MOTORS—SINGLE SPEED

NEMA NOMENCLATURE—6 LEADS

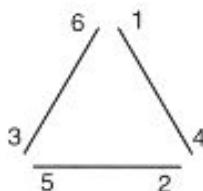
SINGLE VOLTAGE EXTERNAL WYE CONNECTION

L1	L2	L3	JOIN
1	2	3	4&5&6



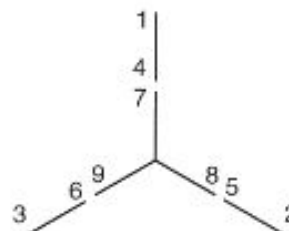
SINGLE VOLTAGE EXTERNAL DELTA CONNECTION

L1	L2	L3
1,6	2,4	3,5



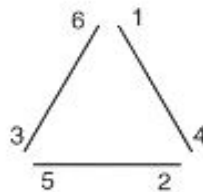
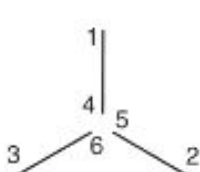
NEMA NOMENCLATURE—9 LEADS

DUAL VOLTAGE WYE-CONNECTED



VOLTAGE	L1	L2	L3	JOIN
LOW	1,7	2,8	3,9	4&5&6
HIGH	1	2	3	4&7,5&8,6&9

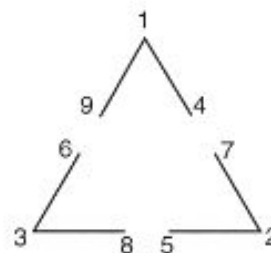
SINGLE AND DUAL VOLTAGE WYE-DELTA CONNECTIONS



SINGLE VOLTAGE

OPERATING MODE	CONNECTION	L1	L2	L3	JOIN
START	WYE	1	2	3	4&5&6
RUN	DELTA	1,6	2,4	3,5	—

DUAL VOLTAGE DELTA-CONNECTED



VOLTAGE	L1	L2	L3	JOIN
LOW	1,6,7	2,4,8	3,5,9	—
HIGH	1	2	3	4&7,5&8,6&9

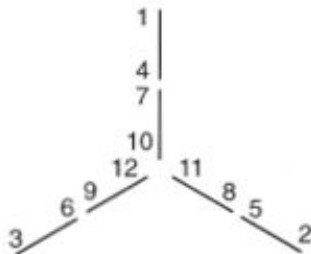
DUAL VOLTAGE*

VOLTAGE	CONNECTION	L1	L2	L3	JOIN
HIGH	WYE	1	2	3	4&5&6
LOW	DELTA	1,6	2,4	3,5	—

*Voltage Ratio: 1.732 to 1.

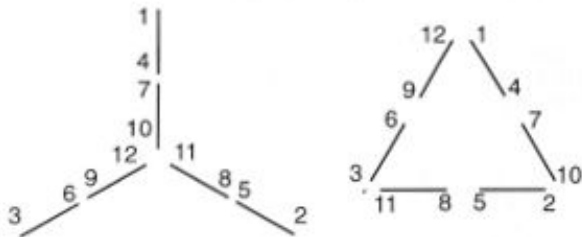
NEMA NOMENCLATURE-12 LEADS

DUAL VOLTAGE
EXTERNAL WYE CONNECTION



VOLTAGE	L1	L2	L3	JOIN
LOW	1,7	2,8	3,9	4&5&6, 10&11&12
HIGH	1	2	3	4&7,5&8,6&9, 10&11&12

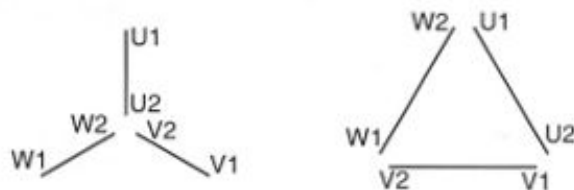
DUAL VOLTAGE
WYE-CONNECTED START
DELTA-CONNECTED RUN



VOLT.	CONN.	L1	L2	L3	JOIN
LOW	WYE	1,7	2,8	3,9	4&5&6, 10&11&12
	DELTA	1,6,7, 12	2,4,8, 10	3,5,9, 11	—
HIGH	WYE	1	2	3	4&7,5&8,6&9, 10&11&12
	DELTA	1,12	2,10	3,11	4&7,5&8,6&9

IEC NOMENCLATURE-6 LEADS

SINGLE AND DUAL VOLTAGE
WYE-DELTA CONNECTIONS



SINGLE VOLTAGE

OPER. MODE	CONN.	L1	L2	L3	JOIN
START	WYE	U1	V1	W1	U2&V2&W2
RUN	DELTA	U1,W2	V1,U2	W1,V2	—

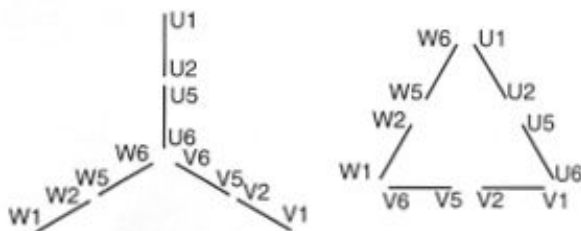
DUAL VOLTAGE*

VOLT.	CONN.	L1	L2	L3	JOIN
HIGH	WYE	U1	V1	W1	U2&V2&W2
LOW	DELTA	U1,W2	V1,U2	W1,V2	—

*Voltage Ratio: 1.732 to 1.

IEC NOMENCLATURE-12 LEADS

DUAL VOLTAGE WYE-CONNECTED START
DELTA-CONNECTED RUN

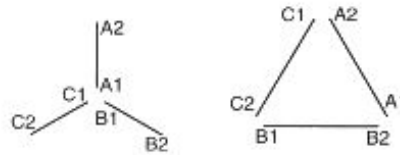


VOLT.	CONN.	L1	L2	L3	JOIN
LOW	WYE	U1,U5	V1,V5	W1,W5	U2&V2&W2, U6&V6&W6
	DELTA	U1,U5, W2,W6	V1,V5, U2,U6	W1,W5, V2,V6	—
HIGH	WYE	U1	V1	W1	U2&U5,V2&V5, W2&W5,U6&V6&W6
	DELTA	U1,W6	V1,U6	W1,V6	U2&U5,V2&V5, W2&W5

**TERMINAL MARKINGS AND CONNECTIONS
THREE-PHASE MOTORS—SINGLE SPEED**

NOMENCLATURE FORMERLY USED IN GREAT BRITAIN—6 LEADS

**SINGLE AND DUAL VOLTAGE
WYE-DELTA CONNECTIONS**



SINGLE VOLTAGE

OPERATING MODE	CONNECTION	L1	L2	L3	JOIN
START	WYE	A2	B2	C2	A1&B1&C1
RUN	DELTA	A2,C1	B2,A1	C2,B1	—

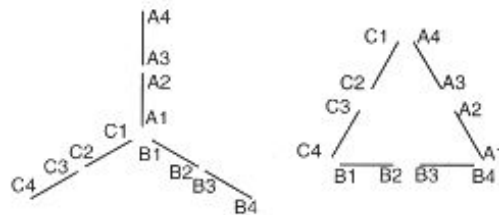
DUAL VOLTAGE*

VOLTAGE	CONNECTION	L1	L2	L3	JOIN
HIGH	WYE	A2	B2	C2	A1&B1&C1
LOW	DELTA	A2,C1	B2,A1	C2,B1	—

*Voltage ratio: 1.732 to 1.

NOMENCLATURE FORMERLY USED IN GREAT BRITAIN—12 LEADS

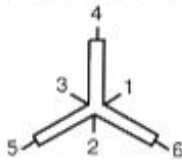
**DUAL VOLTAGE
WYE- CONNECTED START
DELTA-CONNECTED RUN**



VOLTAGE	CONNECTION	L1	L2	L3	JOIN
LOW	WYE	A4,A2	B4,B2	C4,C2	A3&B3&C3, A1&B1&C1
	DELTA	A4,A2, C1,C3	B4,B2, A1,A3	C4,C2, B1,B3	—
HIGH	WYE	A4	B4	C4	A3&A2,B3&B2, C3&C2,A1&B1&C1
	DELTA	A4,C1	B4,A1	C4,B1	A3&A2,B3&B2, C3&C2

TERMINAL MARKINGS AND CONNECTIONS THREE-PHASE MOTORS-TWO SPEED, SINGLE WINDING

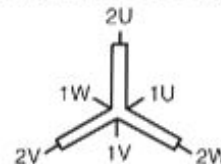
NEMA NOMENCLATURE-6 LEADS CONSTANT TORQUE CONNECTION



Low-speed horsepower is half of high speed horsepower.*

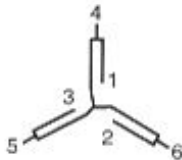
SPEED	L1	L2	L3		TYPICAL CONNECTION
HIGH	6	4	5	1&2&3 JOIN	2 WYE
LOW	1	2	3	4-5-6 OPEN	1 DELTA

IEC NOMENCLATURE-6 LEADS CONSTANT TORQUE CONNECTION



SPEED	L1	L2	L3		TYPICAL CONN.
HIGH	2W	2U	2V	1U&1V&1W JOIN	2 WYE
LOW	1U	1V	1W	2U-2V-2W OPEN	1 DELTA

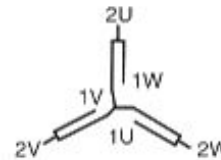
VARIABLE TORQUE CONNECTION



Low-speed horsepower is one-fourth of high-speed horsepower.*

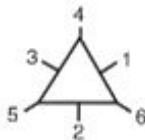
SPEED	L1	L2	L3		TYPICAL CONNECTION
HIGH	6	4	5	1&2&3 JOIN	2 WYE
LOW	1	2	3	4-5-6 OPEN	1 WYE

VARIABLE TORQUE CONNECTION



SPEED	L1	L2	L3		TYPICAL CONN.
HIGH	2W	2U	2V	1U&1V&1W JOIN	2 WYE
LOW	1U	1V	1W	2U-2V-2W OPEN	1 WYE

CONSTANT HORSEPOWER CONNECTION



Horsepower is the same at both speeds.*

SPEED	L1	L2	L3		TYPICAL CONNECTION
HIGH	6	4	5	1-2-3 OPEN	1 DELTA
LOW	1	2	3	4&5&6 JOIN	2 WYE

*CAUTION: On European motors horsepower variance with speed may not be the same as shown above.