

# ABB BALDOR RELIANCE III

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## Customer information packet

### FDEM4104T

30HP, 1760RPM, 3PH, 60HZ, 286T, 1056M, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                |                                                                |
|--------------------------------|----------------------------------------------------------------|
| Enclosure                      | TEFC                                                           |
| Frame                          | 286T                                                           |
| Frame Material                 | Iron                                                           |
| Frequency                      | 60.00 Hz                                                       |
| Haz Area Class and Group       | None                                                           |
| Haz Area Division              | Not Applicable                                                 |
| Motor Letter Type              | Three Phase                                                    |
| Output @ Frequency             | 30.000 HP @ 60 HZ                                              |
| Phase                          | 3                                                              |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ                                               |
| Voltage @ Frequency            | 460.0 V @ 60 HZ<br>230.0 V @ 60 HZ                             |
| Agency Approvals               | CSA<br>CSA EEV<br>UR                                           |
| Ambient Temperature            | 40 °C                                                          |
| Auxiliary Box                  | NO AUXILLARY BOX                                               |
| Auxiliary Box Lead Termination | None                                                           |
| Base Indicator                 | Rigid                                                          |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                                        |
| Blower                         | None                                                           |
| Current @ Voltage              | 76.000 A @ 230.0 V<br>78.000 A @ 208.0 V<br>38.000 A @ 460.0 V |
| Design Code                    | A                                                              |
| Drip Cover                     | No Drip Cover                                                  |
| Duty Rating                    | CONT                                                           |
| Efficiency @ 100% Load         | 93.6 %                                                         |
| Electrically Isolated Bearing  | Not Electrically Isolated                                      |
| Feedback Device                | NO FEEDBACK                                                    |
| Front Face Code                | Standard                                                       |
| Front Shaft Indicator          | None                                                           |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | S          |
| Type         | AC         |
| Mech. spec.  | 10J526     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 10WGY538   |
| Layout       | 10LYJ526   |
| Eff. date    | 09-04-2026 |
| CD Diagram   | CD0180     |
| Poles        | 04         |
| Leads        | 9#8        |
| Proprietary  | False      |
| Created date | 12-13-2013 |

|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Heater Indicator</b>              | No Heater             |
| <b>High Voltage Full Load Amps</b>   | 38.0 a                |
| <b>Insulation Class</b>              | F                     |
| <b>Inverter Code</b>                 | Inverter Ready        |
| <b>KVA Code</b>                      | J                     |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs |
| <b>Locked Bearing Indicator</b>      | Locked Bearing        |
| <b>Motor Lead Exit</b>               | Ko Box                |
| <b>Motor Lead Quantity/Wire Size</b> | 9 @ 8 AWG             |
| <b>Motor Lead Termination</b>        | Flying Leads          |
| <b>Motor Standards</b>               | NEMA                  |
| <b>Motor Type</b>                    | 1056M                 |
| <b>Mounting Arrangement</b>          | F1                    |
| <b>Number of Poles</b>               | 4                     |
| <b>Overall Length</b>                | 27.76 IN              |
| <b>Power Factor</b>                  | 80                    |
| <b>Product Family</b>                | General Purpose       |
| <b>Pulley End Bearing Type</b>       | Sealed Bearing        |
| <b>Pulley Face Code</b>              | Standard              |
| <b>Pulley Shaft Indicator</b>        | Standard              |
| <b>Rodent Screen</b>                 | None                  |
| <b>Service Factor</b>                | 1.15                  |
| <b>Shaft Diameter</b>                | 1.875 IN              |
| <b>Shaft Extension Location</b>      | Pulley End            |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding    |
| <b>Shaft Rotation</b>                | Reversible            |
| <b>Shaft Slinger Indicator</b>       | Shaft Slinger         |
| <b>Speed</b>                         | 1760 rpm              |
| <b>Speed Code</b>                    | Single Speed          |
| <b>Starting Method</b>               | Direct on line        |
| <b>Thermal Device - Bearing</b>      | NONE (OLD)            |
| <b>Thermal Device - Winding</b>      | None                  |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor   |
| <b>Winding Thermal 1</b>             | None                  |

**Winding Thermal 2**

**None**

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**Nameplate**

| NP3126L      |               |      |     |      |   |    |   |    |   |  |  |
|--------------|---------------|------|-----|------|---|----|---|----|---|--|--|
| CAT.NO.      | FDEM4104T     |      |     |      |   |    |   |    |   |  |  |
| SPEC.        | 10J526Y538G1  |      |     |      |   |    |   |    |   |  |  |
| HP           | 30            |      |     |      |   |    |   |    |   |  |  |
| VOLTS        | 230/460       |      |     |      |   |    |   |    |   |  |  |
| AMP          | 76/38         |      |     |      |   |    |   |    |   |  |  |
| RPM          | 1760          |      |     |      |   |    |   |    |   |  |  |
| FRAME        | 286T          |      | HZ  | 60   |   |    |   | PH | 3 |  |  |
| SER.F.       | 1.15          | CODE | J   | DES  | A | CL | F |    |   |  |  |
| NEMA-NOM-EFF | 93.6          | PF   | 80  |      |   |    |   |    |   |  |  |
| RATING       | 40C AMB-CONT  |      |     |      |   |    |   |    |   |  |  |
| CC           | 010A          |      |     |      |   |    |   |    |   |  |  |
| DE           | 6311          |      | ODE | 6309 |   |    |   |    |   |  |  |
| ENCL         | TEFC          | SN   |     |      |   |    |   |    |   |  |  |
|              | SFA 84.8/42.4 |      |     |      |   |    |   |    |   |  |  |

**AC Induction Motor Performance Data**

Record # 32189

Typical performance - not guaranteed values

| Winding: 10WGY538-R004 |    |              |              | Type: 1056M                              |                       | Enclosure: TEFC |           |
|------------------------|----|--------------|--------------|------------------------------------------|-----------------------|-----------------|-----------|
| Nameplate Data         |    |              |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                 |           |
| Rated Output (HP)      |    | 30           |              | Full Load Torque                         |                       | 88.7 LB-FT      |           |
| Volts                  |    | 230/460      |              | Start Configuration                      |                       | direct on line  |           |
| Full Load Amps         |    | 76/38        |              | Breakdown Torque                         |                       | 330 LB-FT       |           |
| R.P.M.                 |    | 1760         |              | Pull-up Torque                           |                       | 142 LB-FT       |           |
| Hz                     | 60 | Phase        | 3            | Locked-rotor Torque                      |                       | 178 LB-FT       |           |
| NEMA Design Code       |    | A            | KVA Code     | Starting Current                         |                       | 270 A           |           |
| Service Factor (S.F.)  |    | 1.15         |              | No-load Current                          |                       | 17.9 A          |           |
| NEMA Nom. Eff.         |    | 93.6         | Power Factor | 80                                       | Line-line Res. @ 25°C |                 | 0.19377 Ω |
| Rating - Duty          |    | 40C AMB-CONT |              | Temp. Rise @ Rated Load                  |                       | 64°C            |           |
| S.F. Amps              |    |              |              | Temp. Rise @ S.F. Load                   |                       | 76°C            |           |
|                        |    |              |              | Locked-rotor Power Factor                |                       | 30.9            |           |
|                        |    |              |              | Rotor inertia                            |                       | 4.47 LB-FT2     |           |

**Load Characteristics 460 V, 60 Hz, 30 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 41     | 63     | 73     | 80     | 82     | 85     | 81   |
| Efficiency      | 87.6   | 92.3   | 93.5   | 93.7   | 93.4   | 92.9   | 93.5 |
| Speed           | 1792.2 | 1787.6 | 1782.4 | 1776.5 | 1770.3 | 1762.1 | 1773 |
| Line amperes    | 19.8   | 24.3   | 30.7   | 37.6   | 45.6   | 55.2   | 42.4 |

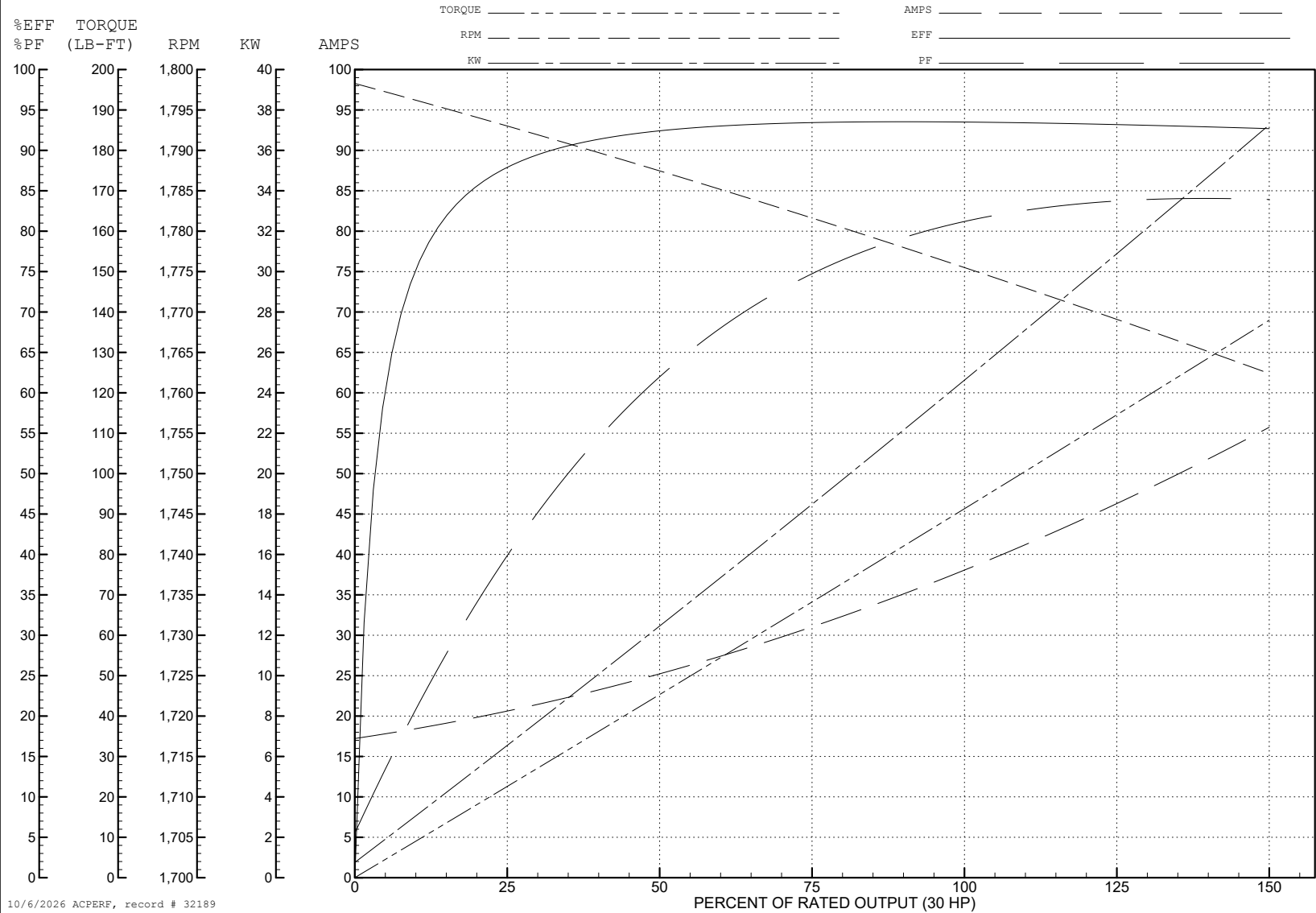
ABB Motors and Mechanical Inc.

WINDING # 10WGY538

Typical performance - not guaranteed values.

30 HP 3 PH 60 HZ 1760 RPM 460 V 1056M

TORQUES (LB-FT): PO=330 PU=142 LR=178 LRA=270



**AC Induction Motor Performance Data**

Record # 114688

Typical performance - not guaranteed values

| Winding: 10WGY538-RXXX |    |              | Type: 1056M                              |                           | Enclosure: TEFC |             |
|------------------------|----|--------------|------------------------------------------|---------------------------|-----------------|-------------|
| Nameplate Data         |    |              | 400 V, 60 Hz:<br>High Voltage Connection |                           |                 |             |
| Rated Output (HP)      |    | 25           | Full Load Torque                         |                           | 73.94 LB-FT     |             |
| Volts                  |    | 200/400      | Start Configuration                      |                           | direct on line  |             |
| Full Load Amps         |    | 66/33        | Breakdown Torque                         |                           | 248 LB-FT       |             |
| R.P.M.                 |    | 1760         | Pull-up Torque                           |                           | 103 LB-FT       |             |
| Hz                     | 60 | Phase        | 3                                        | Locked-rotor Torque       |                 | 129 LB-FT   |
| NEMA Design Code       |    | A            | KVA Code                                 | Starting Current          |                 | 228 A       |
| Service Factor (S.F.)  |    | 1.15         | No-load Current                          |                           | 11.97 A         |             |
| NEMA Nom. Eff.         |    | 93.6         | Power Factor                             | Line-line Res. @ 25°C     |                 | 0.202 Ω     |
| Rating - Duty          |    | 50C AMB-CONT |                                          | Temp. Rise @ Rated Load   |                 | 52°C        |
| S.F. Amps              |    |              |                                          | Temp. Rise @ S.F. Load    |                 | 63°C        |
|                        |    |              |                                          | Locked-rotor Power Factor |                 | 30.7        |
|                        |    |              |                                          | Rotor inertia             |                 | 4.47 lb-ft² |

**Load Characteristics 400 V, 60 Hz, 25 HP**

| % of Rated Load | 25    | 50    | 75    | 100   | 125   | 150   | S.F. |
|-----------------|-------|-------|-------|-------|-------|-------|------|
| Power Factor    | 54    | 76    | 83    | 87    | 87    | 88    | 87   |
| Efficiency      | 88.2  | 92.3  | 93.4  | 93.6  | 93.2  | 92.3  | 93.4 |
| Speed           | 1792  | 1787  | 1781  | 1775  | 1768  | 1758  | 1771 |
| Line amperes    | 14.25 | 19.31 | 26.04 | 33.15 | 41.28 | 50.91 | 38   |

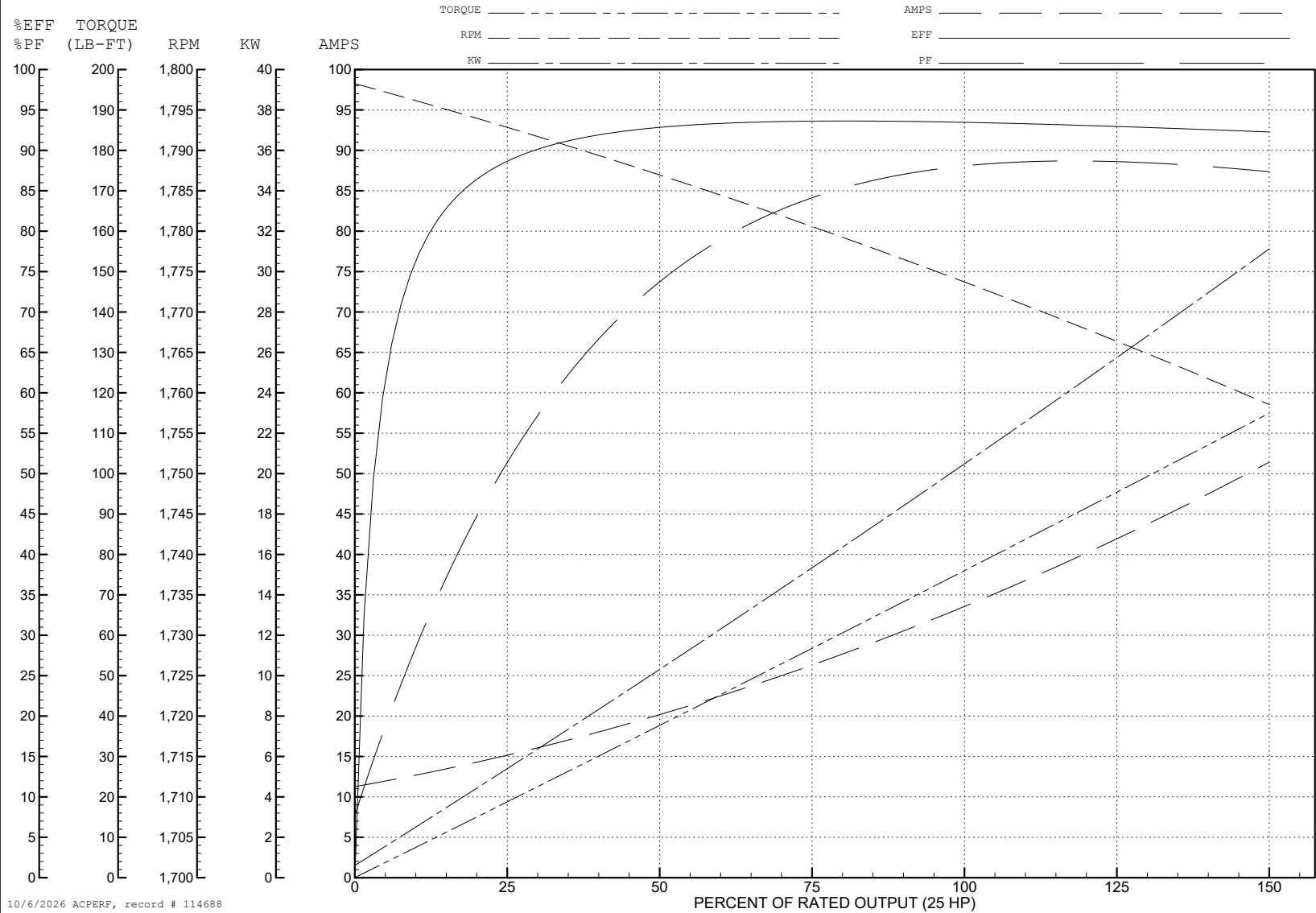
ABB Motors and Mechanical Inc.

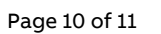
WINDING # 10WGY538

Typical performance - not guaranteed values.

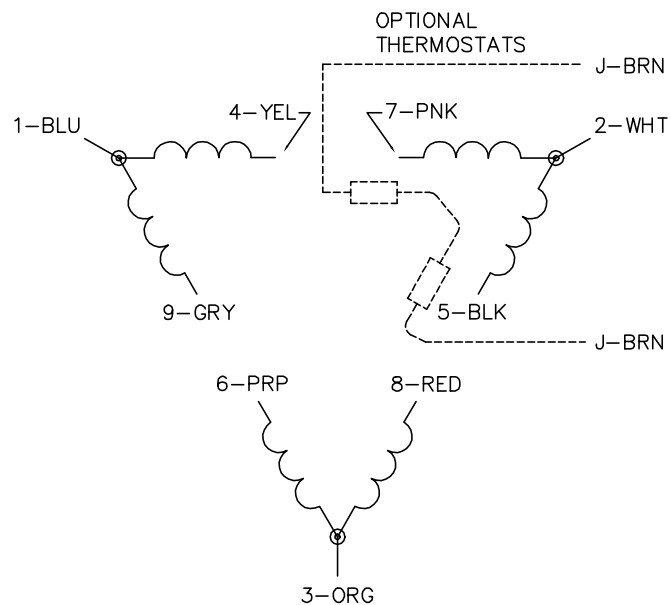
25 HP 3 PH 60 HZ 1760 RPM 400 V 1056M

TORQUES (LB-FT): PO=248 PU=103 LR=129 LRA=228

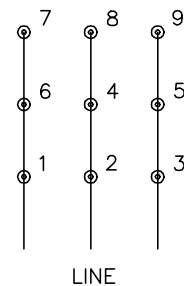




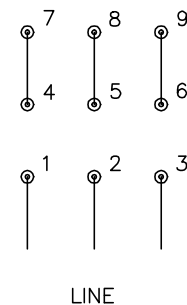
CD0180



LOW VOLTAGE  
(2D)



HIGH VOLTAGE  
(1D)



**NOTES:**

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

REV. DESC: ADD CLASS CONN00000007

REV. LTR: D

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\148

REVISED: 10: 25: 29 02/19/2019

BY: ENBRIRO

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**BALDOR - RELIANCE®**

3PH, DV, 9 LEADS, DELTA CONNECTION

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