

# ABB BALDOR RELIANCE III

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## Customer information packet CEM2538T

40HP, 3530RPM, 3PH, 60HZ, 286TSC, OPSB, F1

**Specifications**

|                                |                                                                 |
|--------------------------------|-----------------------------------------------------------------|
| Enclosure                      | OPSB                                                            |
| Frame                          | 286TSC                                                          |
| Frame Material                 | Steel                                                           |
| Frequency                      | 60.00 Hz                                                        |
| Motor Letter Type              | Three Phase                                                     |
| Output @ Frequency             | 40.000 HP @ 60 HZ                                               |
| Phase                          | 3                                                               |
| Synchronous Speed @ Frequency  | 3600 RPM @ 60 HZ                                                |
| Voltage @ Frequency            | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ                              |
| Agency Approvals               | CURUSEEV<br>NEMA PREMIUM                                        |
| 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              | 92.000 A @ 230.0 V<br>46.000 A @ 460.0 V<br>100.000 A @ 208.0 V |
| Design Code                    | B                                                               |
| Drip Cover                     | No Drip Cover                                                   |
| Duty Rating                    | CONT                                                            |
| Efficiency @ 100% Load         | 92.4 %                                                          |
| Electrically Isolated Bearing  | Not Electrically Isolated                                       |
| Feedback Device                | NO FEEDBACK                                                     |
| Heater Indicator               | No Heater                                                       |
| High Voltage Full Load Amps    | 46.0 a                                                          |
| Insulation Class               | F                                                               |
| Inverter Code                  | Inverter Duty                                                   |
| IP Rating                      | NONE                                                            |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | E          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 40WGX194   |
| Layout       | 40LYE217   |
| Eff. date    | 02-12-2024 |
| CD Diagram   | CD0180     |
| Poles        | 02         |
| Leads        | 9#8        |
| Proprietary  | False      |
| Created date | 03-06-2020 |

|                                   |                              |
|-----------------------------------|------------------------------|
| <b>KVA Code</b>                   | <b>G</b>                     |
| <b>Lifting Lugs</b>               | <b>Standard Lifting Lugs</b> |
| <b>Locked Bearing Indicator</b>   | <b>Locked Bearing</b>        |
| <b>Motor Lead Termination</b>     | <b>Flying Leads</b>          |
| <b>Motor Standards</b>            | <b>NEMA</b>                  |
| <b>Motor Type</b>                 | <b>4046M</b>                 |
| <b>Mounting Arrangement</b>       | <b>F1</b>                    |
| <b>Number of Poles</b>            | <b>2</b>                     |
| <b>Overall Length</b>             | <b>22.44 IN</b>              |
| <b>Power Factor</b>               | <b>89</b>                    |
| <b>Product Family</b>             | <b>General Purpose</b>       |
| <b>Pulley Face Code</b>           | <b>C-Face</b>                |
| <b>Rodent Screen</b>              | <b>None</b>                  |
| <b>Service Factor</b>             | <b>1.15</b>                  |
| <b>Shaft Diameter</b>             | <b>1.625 IN</b>              |
| <b>Shaft Ground Indicator</b>     | <b>No Shaft Grounding</b>    |
| <b>Shaft Rotation</b>             | <b>Reversible</b>            |
| <b>Speed</b>                      | <b>3530 rpm</b>              |
| <b>Speed Code</b>                 | <b>Single Speed</b>          |
| <b>Starting Method</b>            | <b>Direct on line</b>        |
| <b>Thermal Device - Bearing</b>   | <b>None</b>                  |
| <b>Thermal Device - Winding</b>   | <b>None</b>                  |
| <b>Vibration Sensor Indicator</b> | <b>No Vibration Sensor</b>   |
| <b>Winding Thermal 1</b>          | <b>None</b>                  |
| <b>Winding Thermal 2</b>          | <b>None</b>                  |

**Nameplate**

| NP2138L      |              |    |          |        |        |      |            |     |          |   |           |  |         |  |      |        |      |
|--------------|--------------|----|----------|--------|--------|------|------------|-----|----------|---|-----------|--|---------|--|------|--------|------|
| CAT.NO.      | CEM2538T     |    |          |        | P/N    |      |            |     |          |   | ENCLOSURE |  | OPSB    |  |      |        |      |
| SPEC.        | 40-0000840   |    |          | CC     | 010A   |      | FRAME      |     | 286TSC   |   | S/N       |  |         |  |      |        |      |
| HP           | 40           |    |          |        | CLASS  |      | F          |     | HZ       |   | 60        |  |         |  |      |        |      |
| RPM          | 3530         |    |          |        | PH     | 3    |            | DES |          | B |           |  |         |  |      |        |      |
| VOLT         | 230/460      |    |          |        |        |      |            |     | KVA-CODE |   | G         |  | ODE BRG |  | 6309 | DE BRG | 6311 |
| AMP          | 92/46        |    |          |        |        |      |            |     |          |   |           |  |         |  |      |        |      |
| RATING       | 40C AMB-CONT |    |          |        | GREASE |      | POLYREX EM |     |          |   |           |  |         |  |      |        |      |
| NEMA-NOM-EFF | 92.4         | PF | 89       | SER.F. |        | 1.15 |            |     |          |   |           |  |         |  |      |        |      |
|              |              |    |          |        |        |      |            |     |          |   |           |  |         |  |      |        |      |
| HTR-VOLTS    |              |    | HTR-AMPS |        |        |      |            |     |          |   |           |  |         |  |      |        |      |

**AC Induction Motor Performance Data**

Record # 53753

Typical performance - not guaranteed values

| Winding: 40WGX194-R001 |    |              | Type: 4046M                              | Enclosure: OPSB           |                       |             |          |
|------------------------|----|--------------|------------------------------------------|---------------------------|-----------------------|-------------|----------|
| Nameplate Data         |    |              | 460 V, 60 Hz:<br>High Voltage Connection |                           |                       |             |          |
| Rated Output (HP)      |    | 40           | Full Load Torque                         |                           | 59.6 LB-FT            |             |          |
| Volts                  |    | 230/460      | Start Configuration                      |                           | direct on line        |             |          |
| Full Load Amps         |    | 92/46        | Breakdown Torque                         |                           | 158 LB-FT             |             |          |
| R.P.M.                 |    | 3530         | Pull-up Torque                           |                           | 79.7 LB-FT            |             |          |
| Hz                     | 60 | Phase        | 3                                        | Locked-rotor Torque       |                       | 96 LB-FT    |          |
| NEMA Design Code       |    | B            | KVA Code                                 | G                         | Starting Current      |             | 279 A    |
| Service Factor (S.F.)  |    | 1.15         |                                          | No-load Current           |                       | 11.7 A      |          |
| NEMA Nom. Eff.         |    | 92.4         | Power Factor                             | 89                        | Line-line Res. @ 25°C |             | 0.1848 Ω |
| Rating - Duty          |    | 40C AMB-CONT |                                          | Temp. Rise @ Rated Load   |                       | 35°C        |          |
| S.F. Amps              |    |              |                                          | Temp. Rise @ S.F. Load    |                       | 44°C        |          |
|                        |    |              |                                          | Locked-rotor Power Factor |                       | 23.9        |          |
|                        |    |              |                                          | Rotor inertia             |                       | 1.97 LB-FT2 |          |

**Load Characteristics 460 V, 60 Hz, 40 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150  | S.F. |
|-----------------|--------|--------|--------|--------|--------|------|------|
| Power Factor    | 66     | 82     | 88     | 89     | 90     | 90   | 90   |
| Efficiency      | 91.4   | 93.7   | 93.7   | 93     | 92     | 90.7 | 92.4 |
| Speed           | 3580.7 | 3565.4 | 3547.1 | 3527.4 | 3504.7 | 3481 | 3514 |
| Line amperes    | 16.4   | 24.9   | 34.7   | 45.9   | 57     | 69.7 | 52.6 |

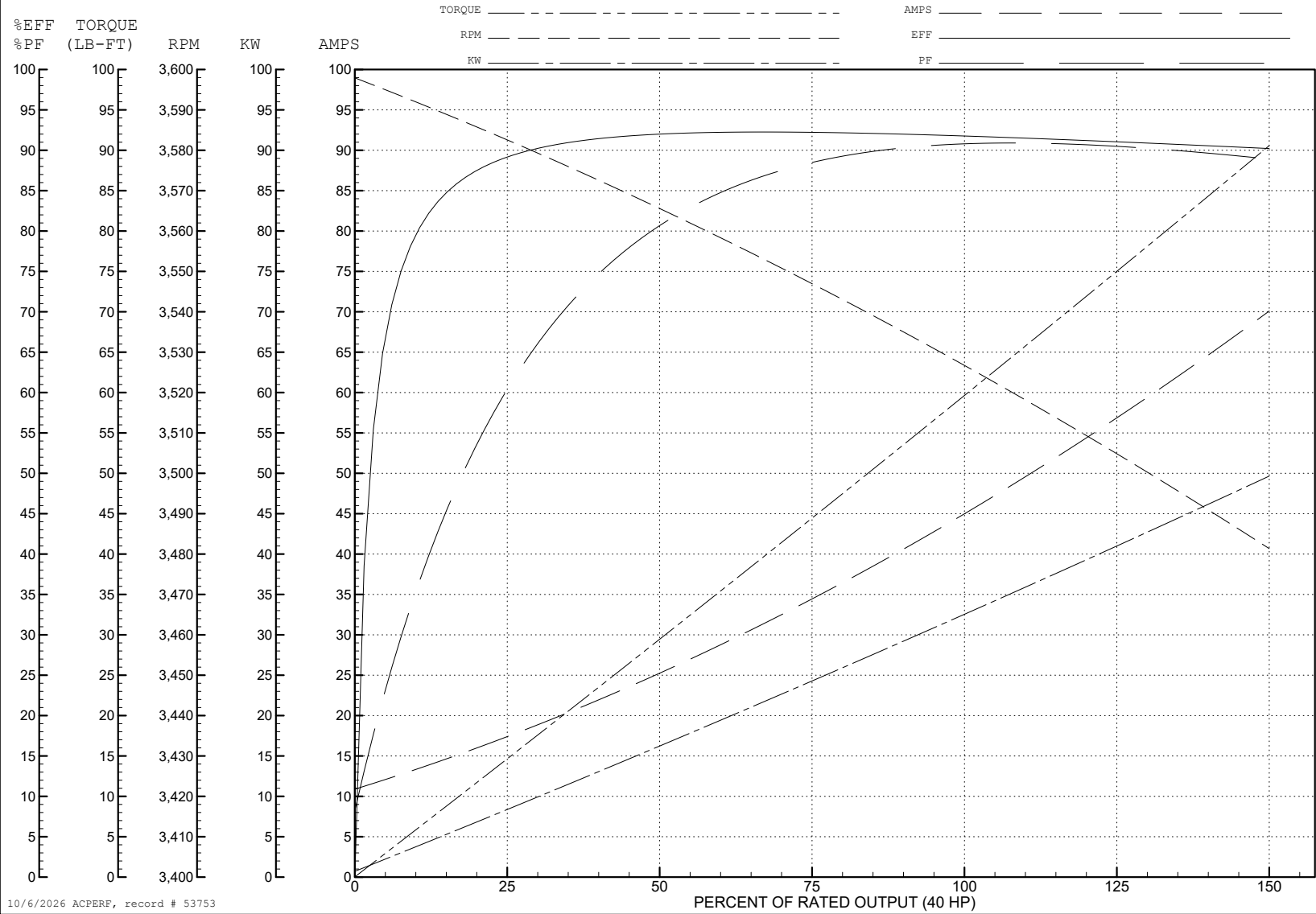
ABB Motors and Mechanical Inc.

WINDING # 40WGx194

Typical performance - not guaranteed values.

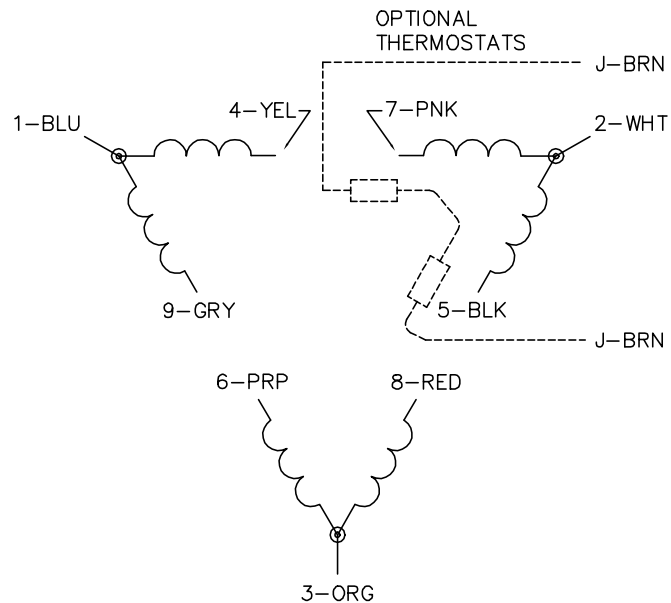
40 HP 3 PH 60 HZ 3530 RPM 460 V 4046M

TORQUES (LB-FT): PO=158 PU=79.7 LR=96 LRA=279

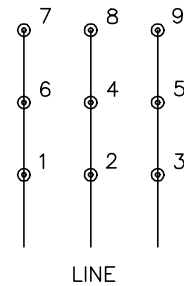




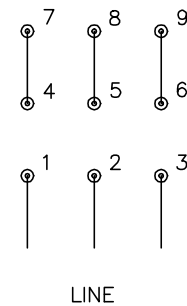
CD0180



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.

CD0180

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

MTL: —



**BALDOR - RELIANCE®**

3PH, DV, 9 LEADS, DELTA CONNECTION

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