ABB BALDOR RELIANCE

# Customer information packet

## EM4102T

20HP, 1180RPM, 3PH, 60HZ, 286T, 1054M, TEFC, F1
Class - None
Division - Not Applicable

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## 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** | 20.000 HP @ 60 HZ |
| **Phase** | 3 |
| **Synchronous Speed @ Frequency** | 1200 RPM @ 60 HZ |
| **Voltage @ Frequency** | 460.0 V @ 60 HZ |
| | 230.0 V @ 60 HZ |
| **Agency Approvals** | CURUSEEV |
| | NEMA PREMIUM |
| | NEMA PREMIUM (OLD LOGO) |
| **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** | 54.000 A @ 230.0 V |
| | 56.000 A @ 208.0 V |
| | 27.000 A @ 460.0 V |
| **Design Code** | A |
| **Drip Cover** | No Drip Cover |
| **Duty Rating** | CONT |
| **Efficiency @ 100% Load** | 91.7 % |
| **Electrically Isolated Bearing** | Not Electrically Isolated |
| **Feedback Device** | NO FEEDBACK |
| **Front Face Code** | Standard |
| **Front Shaft Indicator** | None |

## Part Detail

| | |
|---|---|
| **Revision** | AC |
| **Type** | AC |
| **Mech. spec.** | 10C151 |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | 10WGY730 |
| **Layout** | 10LYC151 |
| **Eff. date** | 01-07-2026 |
| **CD Diagram** | CD0180 |
| **Poles** | 06 |
| **Leads** | 9#10 |
| **Proprietary** | False |
| **Created date** | 05-06-2010 |

| | |
|---|---|
| **Heater Indicator** | No Heater |
| **High Voltage Full Load Amps** | 27.0 a |
| **Insulation Class** | F |
| **Inverter Code** | Inverter Ready |
| **KVA Code** | H |
| **Lifting Lugs** | Standard Lifting Lugs |
| **Locked Bearing Indicator** | Locked Bearing |
| **Motor Lead Exit** | Ko Box |
| **Motor Lead Quantity/Wire Size** | 9 @ 10 AWG |
| **Motor Lead Termination** | Flying Leads |
| **Motor Standards** | NEMA |
| **Motor Type** | 1054M |
| **Mounting Arrangement** | F1 |
| **Number of Poles** | 6 |
| **Overall Length** | 27.76 IN |
| **Power Factor** | 77 |
| **Product Family** | General Purpose |
| **Pulley End Bearing Type** | Ball |
| **Pulley Face Code** | Standard |
| **Pulley Shaft Indicator** | Standard |
| **Rodent Screen** | None |
| **Service Factor** | 1.15 |
| **Shaft Diameter** | 1.875 IN |
| **Shaft Extension Location** | Pulley End |
| **Shaft Ground Indicator** | No Shaft Grounding |
| **Shaft Rotation** | Reversible |
| **Shaft Slinger Indicator** | Shaft Slinger |
| **Speed** | 1180 rpm |
| **Speed Code** | Single Speed |
| **Starting Method** | Direct on line |
| **Thermal Device - Bearing** | None |
| **Thermal Device - Winding** | None |
| **Vibration Sensor Indicator** | No Vibration Sensor |
| **Winding Thermal 1** | None |

| | |
|---|---|
| **Winding Thermal 2** | None |

**Nameplate**

| NP3443LUA | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAT.NO.** | EM4102T | | | **CUST. P/N** | | | | | | **ENCL** | TEFC | |
| **SPEC.** | 10C151Y730G1 | **CC** | 010A | **FRAME** | 286T | | **SER.NO.** | | | | | |
| **HP** | 20 | | **CLASS** | F | **HZ** | 60 | | | | | | |
| **R.P.M.** | 1180 | | **PH.** | 3 | **DES.** | A | | | | | | |
| **VOLTS** | 230/460 | | | **CODE** | H | | **ODE BRG** | 6309 | **DE BRG** | 6311 | | |
| **AMPS** | 54/27 | | | | | | | | | | | |
| **RATING** | 40C AMB-CONT | | | **NEMA NOM. EFF.** | 91.7 | | | **GREASE** | POLYREX EM | | | |
| **P.F.** | 77 | **SER.F.** | 1.15 | **CT6-60H(10:1)VT3-60H(20:1** | | | | | | | | |
| **USABLE AT** | 50Hz 20HP 190/380V 62/31A | | | SF1.0 | | | | | | | | |
| **VOLTS** | **AMPS** | | **MAX. SPACE HEATER TEMP.** | | | | | | | | | |

**Accessories**

| Part number | Description | Multiplier |
|---|---|---|
| 10-1305 | C FACE KIT | A8 |
| 10EP1502A01SP | D-FLANGE KIT | A8 |

**AC Induction Motor Performance Data**
Record # 53029
Typical performance - not guaranteed values

| **Winding:** 10WGY730-R006 | **Type:** 1054M | **Enclosure:** TEFC |
|---|---|---|

| **Nameplate Data** | | | | **460 V, 60 Hz: High Voltage Connection** | |
|---|---|---|---|---|---|
| **Rated Output (HP)** | | | 20 | **Full Load Torque** | 90.1 LB-FT |
| **Volts** | | | 230/460 | **Start Configuration** | direct on line |
| **Full Load Amps** | | | 54/27 | **Breakdown Torque** | 276 LB-FT |
| **R.P.M.** | | | 1180 | **Pull-up Torque** | 115 LB-FT |
| **Hz** | 60 | **Phase** | 3 | **Locked-rotor Torque** | 166 LB-FT |
| **NEMA Design Code** | A | **KVA Code** | H | **Starting Current** | 165 A |
| **Service Factor (S.F.)** | | | 1.15 | **No-load Current** | 13.1 A |
| **NEMA Nom. Eff.** | 91.7 | **Power Factor** | 77 | **Line-line Res. @ 25ºC** | 0.425 Ω |
| **Rating - Duty** | | | 40C AMB-CONT | **Temp. Rise @ Rated Load** | 65°C |
| **S.F. Amps** | | | | **Temp. Rise @ S.F. Load** | 79°C |
| | | | | **Locked-rotor Power Factor** | 32 |
| | | | | **Rotor inertia** | 6.61 LB-FT2 |

**Load Characteristics 460 V, 60 Hz, 20 HP**

| **% of Rated Load** | **25** | **50** | **75** | **100** | **125** | **150** | **S.F.** |
|---|---|---|---|---|---|---|---|
| **Power Factor** | 39 | 60 | 71 | 77 | 79 | 80 | 78 |
| **Efficiency** | 86.6 | 91.1 | 91.9 | 91.7 | 90.9 | 89.8 | 91.2 |
| **Speed** | 1194.6 | 1189.5 | 1184.1 | 1178.3 | 1171.4 | 1163.8 | 1174 |
| **Line amperes** | 14.3 | 17.5 | 21.9 | 26.9 | 32.7 | 39.3 | 30.4 |

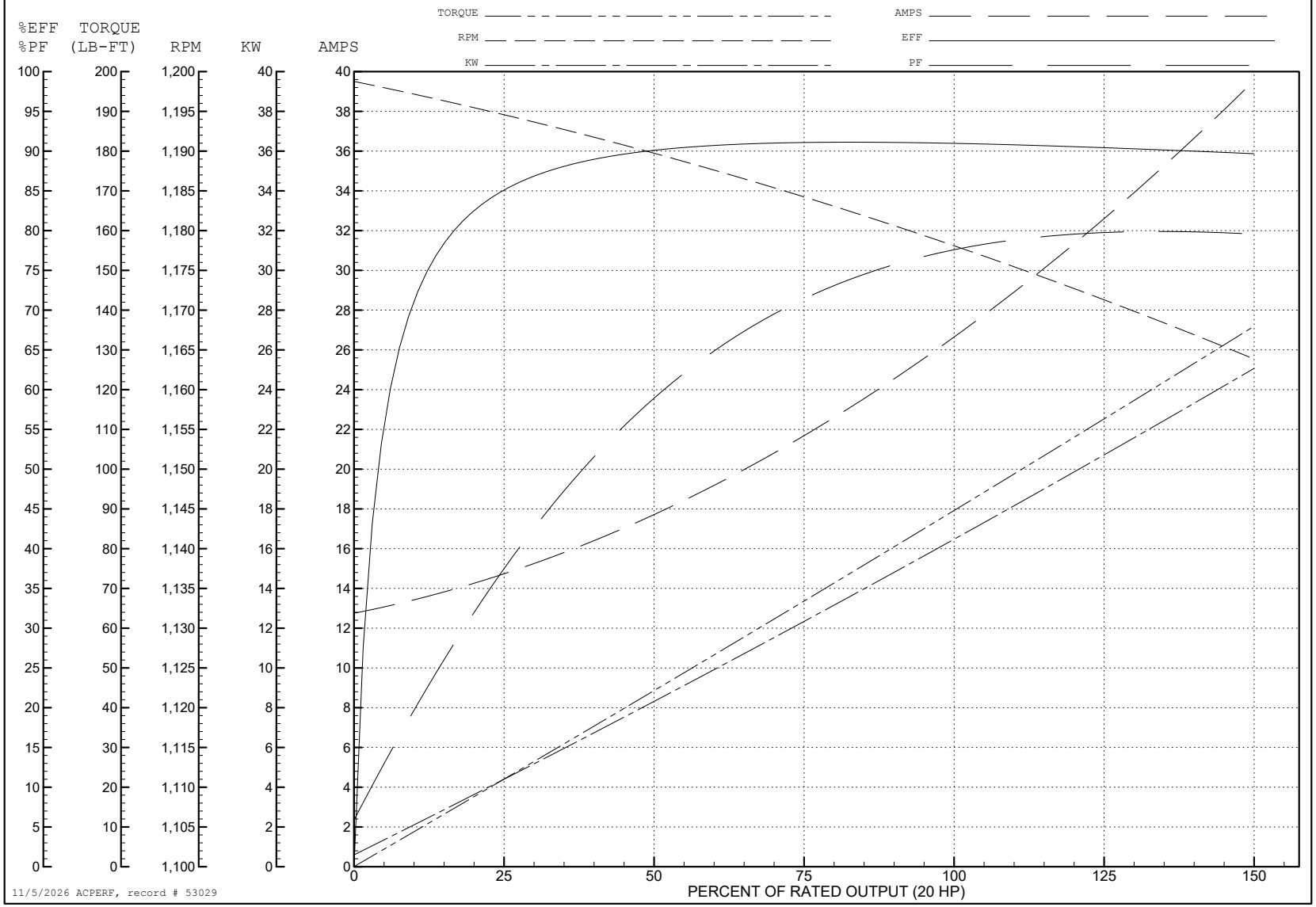
ABB Motors and Mechanical Inc.

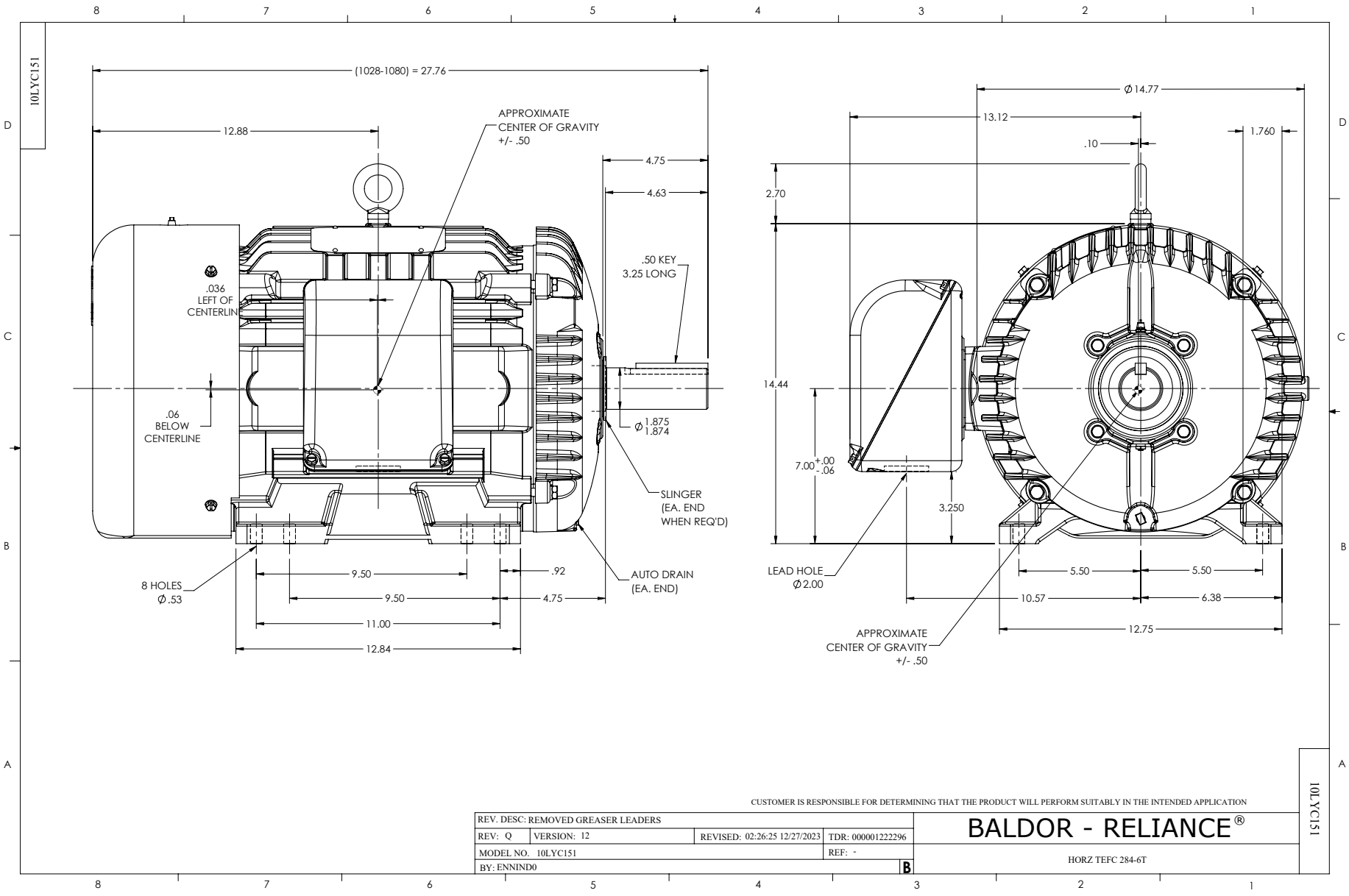
WINDING # 10WGY730

20 HP 3 PH 60 HZ 1180 RPM 460 V 1054M

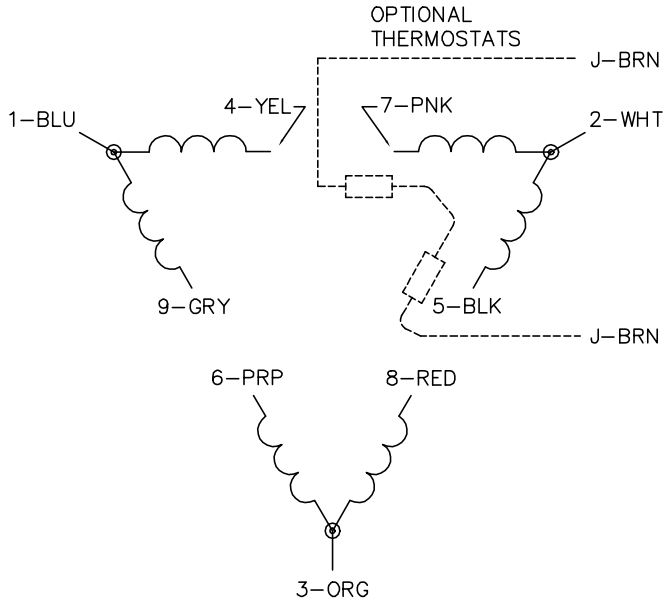
Typical performance - not guaranteed values.

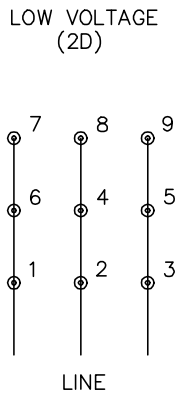
TORQUES(LB-FT): PO=276 PU=115 LR=166 LRA=165

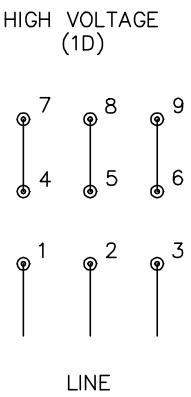



10LYC151
(1028-1080) = 27.76
12.88
APPROXIMATE
CENTER OF GRAVITY
+/- .50
4.75
4.63
.50 KEY
3.25 LONG
.036
LEFT OF
CENTERLIN
.06
BELOW
CENTERLINE
Ø 1.875
1.874
SLINGER
(EA. END
WHEN REQ'D)
AUTO DRAIN
(EA. END)
8 HOLES
Ø .53
9.50
.92
9.50
4.75
11.00
12.84
Ø 14.77
13.12
.10
1.760
2.70
14.44
7.00 +.00 -.06
3.250
LEAD HOLE
Ø 2.00
5.50
5.50
10.57
6.38
12.75
APPROXIMATE
CENTER OF GRAVITY
+/- .50
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: REMOVED GREASER LEADERS
REV: Q
VERSION: 12
REVISED: 02:26:25 12/27/2023
TDR: 000001222296
MODEL NO. 10LYC151
REF: -
BY: ENNIND0
B
BALDOR - RELIANCE®
HORZ TEFC 284-6T
10LYC151

CD0180




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: ENBRIR0 |
| MTL: – | | |

BALDOR - RELIANCE®

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1