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# General Purpose Motors

**Model No:** TCA0153AP211GAA009
**Catalog No:** R438

General Purpose Motor, 20 HP, 3 Ph, 60 Hz, 575 V, 1200 RPM, 180L Frame, TEFC

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## Product Information Packet: Model No: TCA0153AP211GAA009, Catalog No: R438 General Purpose Motor, 20 HP, 3 Ph, 60 Hz, 575 V, 1200 RPM, 180L Frame, TEFC

### Nameplate Specifications

| | | | |
|---|---|---|---|
| Phase | **3** | Output HP | **20 Hp** |
| Output KW | **15.0 kW** | Voltage | **575 V** |
| Speed | **1180 r/min** | Synchronous RPM | **1200 r/min** |
| Service Factor | **1.15** | Frame | **180L** |
| Enclosure | **Totally Enclosed Fan Cooled** | Thermal Protection | **No Protection** |
| Efficiency | **91.7 %** | Ambient Temperature | **40 °C** |
| Frequency | **60 Hz** | Current | **23.1 A** |
| Power Factor | **77** | Duty | **Continuous** |
| Insulation Class | **F8** | Design Code | **N (IEC)** |
| KVA Code | **F** | Drive End Bearing Size | **6309** |
| Opp Drive End Bearing Size | **6209** | UL | **Recognized** |
| CSA | **N** | CE | **Y** |
| IP Code | **55** | Number of Speeds | **1** |

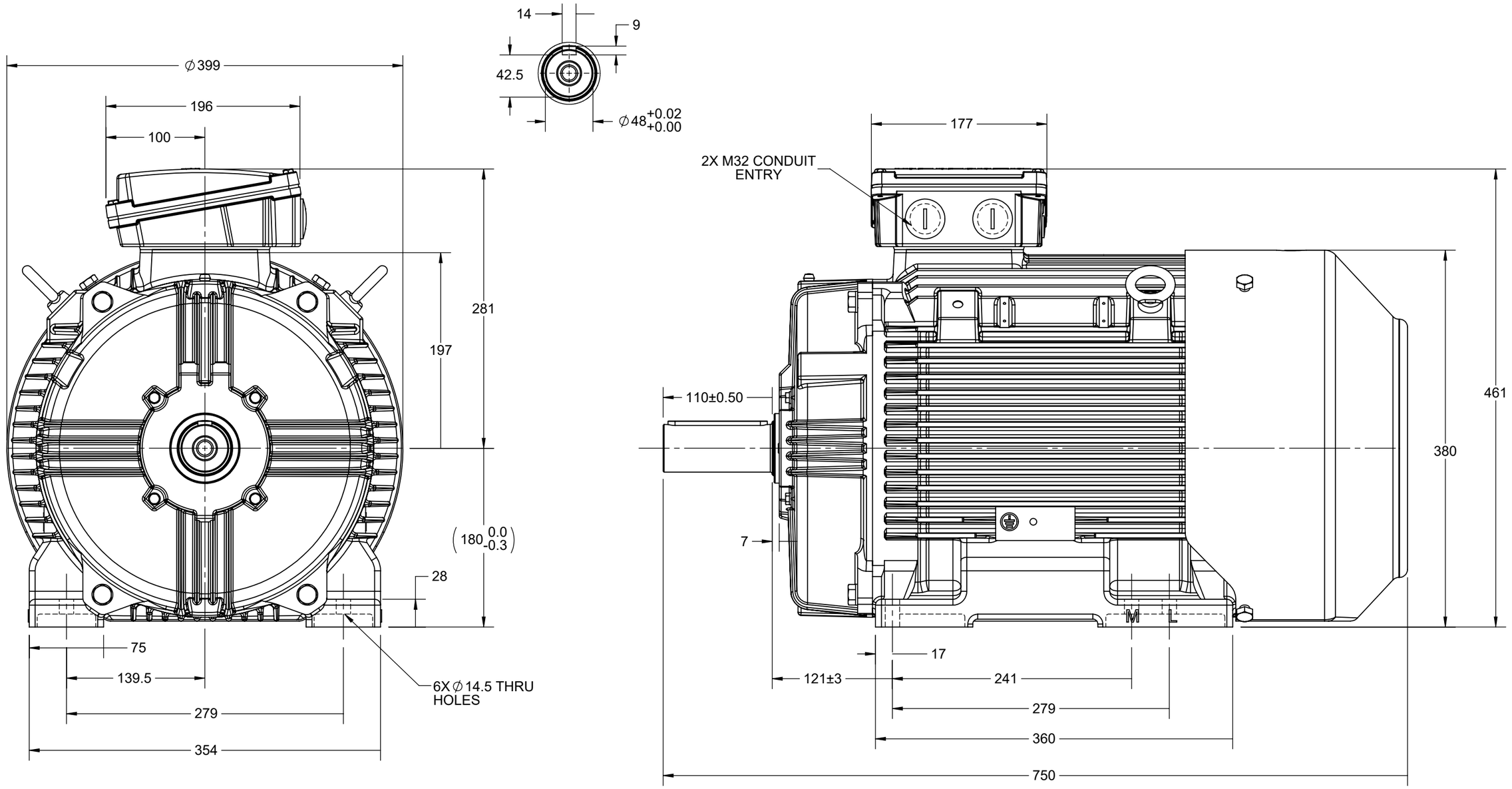
### Technical Specifications

| | | | |
|---|---|---|---|
| Electrical Type | **Squirrel Cage Inverter Rated** | Starting Method | **Line Or Inverter** |
| Poles | **6** | Rotation | **Reversible** |
| Resistance Main | **.56 O** | Mounting | **B3** |
| Motor Orientation | **Horizontal** | Drive End Bearing | **Ball** |
| Opp Drive End Bearing | **Ball** | Frame Material | **Cast Iron** |
| Shaft Type | **IEC** | Overall Length | **29.53 in** |
| Frame Length | **14.41 in** | Shaft Diameter | **1.89 in** |
| Shaft Extension | **4.33 in** | Assembly/Box Mounting | **F3** |
| Inverter Load | **Constant 2:1/Variable 10:1** | | |

### Drawings

| | | | |
|---|---|---|---|
| Connection Drawing | **8442000685** | Outline Drawing | **SS312998** |

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| | | | | |
|---|---|---|---|---|
| DRAWING REVISION: B | REVISION BY: SB | REV DATE/© DATE: 07/30/2025 | PRIMARY DIMENSIONS ARE mm<br>INCH DIMENSIONS IN [BRACKETS]<br>ARE FOR REFERENCE ONLY | DRAWN BY: LK |
| REQUEST NUMBER: CR-0023600 | APPROVED BY: SBD | DATE: 07/30/2025 | | DATE: 05/12/2018 |
| REQUEST NUMBER DESCRIPTION: DRAWING TITLE BLOCK UPDATED | | | | APPROVED BY: JAY |
| | | | | DATE: 05/12/2018 |
| | | | | REFERENCE |
| | | | | THIRD ANGLE PROJECTION |

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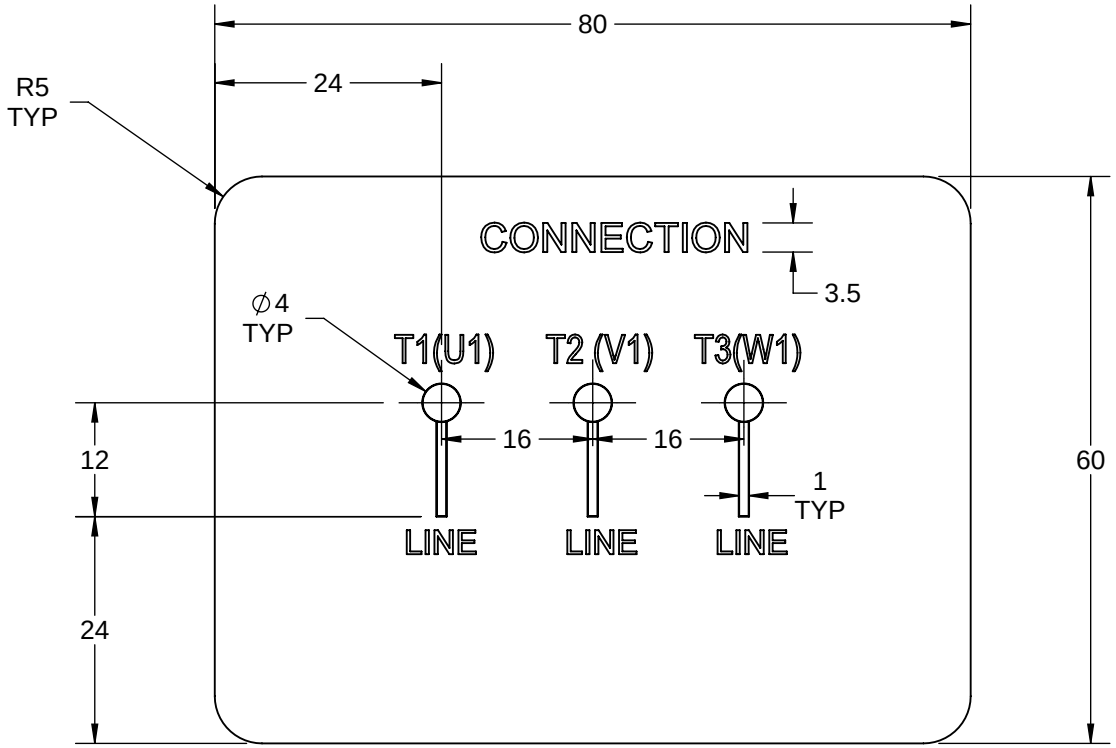
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DESCRIPTION: OUTLINE
IEC-180L-B3 MOTOR TYPE: TEFC-CAST IRON

MATERIAL | PROCESS/FINISH

SIZE: B | DRAWING NUMBER: SS312998 | SHEET: 1 OF 1

| GENERAL TOLERANCE | | |
|---|---|---|
| LINEAR DIM | >0~6 | ±0.1 |
| | >6~30 | ±0.2 |
| | >30~120 | ±0.3 |




NOTES:

1. PRESSURE-SENSITIVE ADHESIVE TAPE COATED WITH ANTI-ADHESIVE.
2. YELLOW COLOR BACK GROUND LETTERS WILL BE BLACK.
3. DIMENSIONS WITHOUT INDICATED TOLERANCES SHALL CONFORM TO THE GENERAL TOLERANCE TABLE
4. LEAD TERMINAL MARKINGS FONT SIZE : T1-T2 - T3 & U1-V1-W1 OF ARIAL WITH 3mm SIZE
5. OTHER LETTER FONT SIZE SHOULD BE 3.5mm.

| DRAWING REVISION | REVISION BY | REV DATE/© DATE |
|---|---|---|
| B | SB | 06/03/2026 |
| REQUEST NUMBER | APPROVED BY | DATE |
| CR-0026504 | RMS | 06/03/2026 |

REQUEST NUMBER DESCRIPTION
DRAWING TITLE BLOCK UPDATED

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PRIMARY DIMENSIONS ARE INCH
mm DIMENSIONS IN [BRACKETS]
ARE FOR REFERENCE ONLY

| | |
|---|---|
| DRAWN BY | A. KEETHA |
| DATE | 24/07/2019 |
| APPROVED BY | SN |
| DATE | 24/07/2019 |
| REFERENCE | |
| THIRD ANGLE PROJECTION | |

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DESCRIPTION
CONNECTION DIAGRAM
3 LEAD CONNECTION

| MATERIAL | PROCESS/FINISH |
|---|---|
| | |

| SIZE | DRAWING NUMBER | SHEET |
|---|---|---|
| A | 8442000685 | 1 OF 1 |

marathon® Motors

**DATA VOLTS:** 575

# CERTIFICATION DATA SHEET

**REFERENCE MODEL #:** TCA0153AP211GAA009
**CONN. DIAGRAM:** 8442000677 **CAT #:** R438
**OUTLINE:** SS312998
**WINDING:** IE3L1806201 NONE 3 **MOUNTING:** F3

## TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE | KVA CODE | DESIGN |
|---|---|---|---|---|---|---|---|---|
| 20 | 15.0 | 1200 | 1180 | 180L | TEFC | TFN | F | N |

| PH | HZ | VOLTS | AMPS | START TYPE | DUTY | INSL | S.F. | AMB (° C) | ELEV. (Ft) |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 60 | 575 | 21.4 | LINE OR INVERTER | CONT | F | 1.15 | 40 | 3300 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| F.L. EFF | 91.7 | 3/4 LD EFF | 91.7 | 1/2 LD EFF | 91.9 | GTD EFF | ELECT. TYPE | |
| F.L. PF | 77.0 | 3/4 LD PF | 70.0 | 1/2 LD PF | 59.0 | 90.5 | SQ CAGE INV RATED | |

| F.L. TORQUE | LR AMPS | L.R. TORQUE | B.D. TORQUE | F.L. RISE (° C) | |
|---|---|---|---|---|---|
| 89.0 LB-FT | 111 | 152 LB-FT 171% | 207 LB-FT 233% | 80 | |

| SOUND PRESSURE | SOUND | ROTOR WK² | MAX. LOAD WK² | SAFE STALL TIME | STARTS/HOUR | APROX. MOTOR |
|---|---|---|---|---|---|---|
| 56 dBA | 65 dBA | 6.2 LB-FT² | 6.2 LB-FT² | 15 SEC. | 2 | 216 KG. |

## *** SUPPLEMENTAL INFORMATION ***

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAINT |
|---|---|---|---|---|---|---|---|---|
| STANDARD | STANDARD | B3 | HORIZONTAL | NO | NONE | NO | NONE | BLUE (ENAMEL) |

| BEARINGS DE | BEARINGS ODE | GREASE | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT MATERIAL | FRAME MATERIAL |
|---|---|---|---|---|---|---|---|
| BALL 6309 | BALL 6209 | POLYREX EM | STANDARD IEC | NONE | NONE | 1045 HOT ROLLED (C-204) | CAST IRON |

| THERMOSTATS | PROTECTORS | WDG RTD's | BRG RTD's | THERMISTORS | CONTROL | SPACE HEATERS |
|---|---|---|---|---|---|---|
| NONE | NOT | NONE | NONE | NONE | FALSE | NA |

| R1 (ohms/ph) | R2 (ohms/ph) | X1 (ohms/ph) | X2 (ohms/ph) | Xm (ohms/ph) | VIBRATION (in/sec) | |
|---|---|---|---|---|---|---|
| 0.865625 | 0.45 | 2.4234375 | 3.6015625 | 49.8234375 | 0.150 | |

NOTES *

If Inverter equals NONE, contact factory for further information
**INVERTER TORQUE:** CONSTANT 2:1/VARIABLE 10:1
**INV. HP SPEED RANGE:** NONE

**ENCODER:** NONE
NONE
NONE NONE **PPR**

**BRAKE:** NONE
NONE NONE
**FT-LB:** NA
**VOLTAGE:** NONE **HZ:**

**PREPARED BY:**
**DATE:** 9/22/2021

FORM: 3531 REV_4 2/27/06
** Subject to change without notice.