

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0902A3131GACD01

Catalog No: TCA0902A3131GACD01

Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 415 V, 1500 RPM, 280M Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies.
©2022 Regal Rexnord Corporation, All Rights Reserved. MC017097E

RegalRexnord

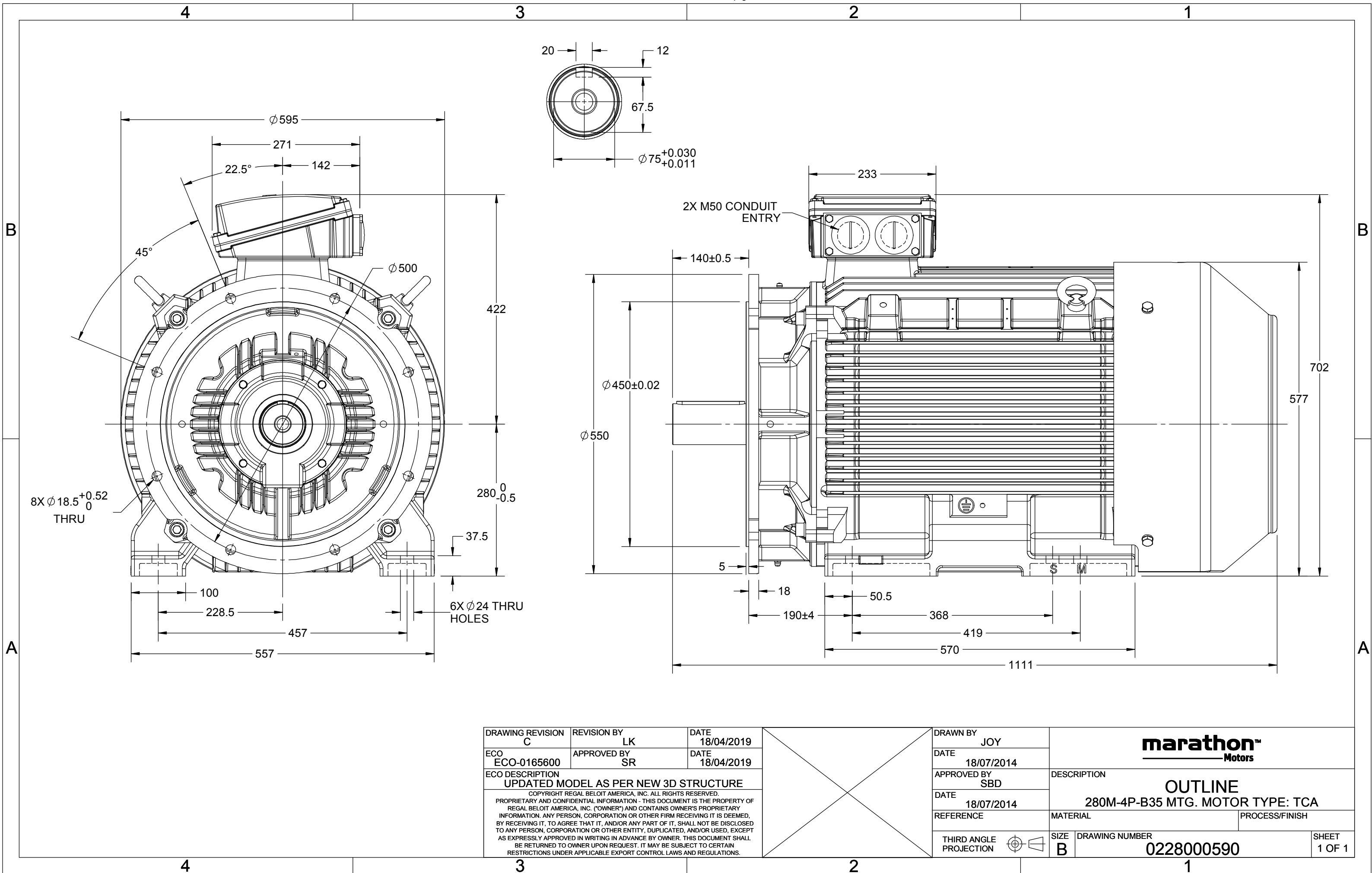
Nameplate Specifications

| | | | |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP | 120 Hp | Output KW | 90.0 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 151.2 A | Speed | 1490 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 95.2 % | Power Factor | 0.87 |
| Duty | S1 | Insulation Class | F |
| Frame | 280M | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Ambient Temperature | 50 °C |
| Drive End Bearing Size | 6317 | Opp Drive End Bearing Size | 6317 |
| UL | No | CSA | No |
| CE | Yes | IP Code | 55 |
| Number of Speeds | 1 | Efficiency Class | IE3 |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 4 | Rotation | Bi-Directional |
| Mounting | B35 | Motor Orientation | Horizontal |
| Drive End Bearing | C3 | Opp Drive End Bearing | C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 1111 mm | Frame Length | 600 mm |
| Shaft Diameter | 75 mm | Shaft Extension | 140 mm |
| Assembly/Box Mounting | Top | | |
| Outline Drawing | 0228000590 | Connection Drawing | 8442000085 |

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created:12/01/2022



COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. UNCONTROLLED COPY
 PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF
 REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY
 INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,
 BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED
 TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT
 AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL
 BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN
 RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.

| | | |
|---|---------------------------|---------------------------|
| DRAWING REVISION A | REVISION BY SN | DATE 13/01/2017 |
| ECO ECO-0116390 | APPROVED BY SBD | DATE 13/01/2017 |
| ECO DESCRIPTION NEW DRAWING RELEASE | | |

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



NOTES:

1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

8WD.442.2017

| | | | | | | | |
|--|---------------------------|--|--|--|-------------------------------------|--|------------------------|
| | DRAWN BY SN | | Regal Beloit America, Inc. | | | | |
| | DATE 16/12/2016 | | | | | | |
| | APPROVED BY SBD | | DESCRIPTION CONN DIAGRAM-NAMEPLATE | | | | |
| | DATE 16/12/2016 | | | | | | |
| | REFERENCE | | MATERIAL | | PROCESS/FINISH | | |
| | THIRD ANGLE PROJECTION | | SIZE A | | DRAWING NUMBER 8442000085 | | SHEET 1 OF 1 |

Model No. TCA0902A3131GACD01

| U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [RPM] | T [Nm] | IE Class | % EFF at __ load | | | | PF at __ load | | | I _A /I _N [pu] | T _A /T _N [pu] | T _K /T _N [pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|--|--|--|
| 415 | Δ | 50 | 90 | 120 | 151.2 | 1490 | 573.57 | IE3 | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | 6.8 | 2.6 | 2.8 |
| | | | | | | | | | - | 95.2 | 95.2 | 94.7 | 0.87 | 0.84 | 0.76 | | | |
| | | | | | | | | | | | | | | | | | | |

| | |
|----------------------------------|-----------------------------------|
| Motor type | TCA |
| Enclosure | TEFC |
| Frame Material | Cast Iron |
| Frame size | 280M |
| Duty | S1 |
| Voltage variation * | ± 10% |
| Frequency variation * | ± 5% |
| Combined variation * | 10% |
| Design | N |
| Service factor | 1.0 |
| Insulation class | F |
| Ambient temperature | -20 to +50 °C |
| Temperature rise (by resistance) | 70 [Class B] K |
| Altitude above sea level | 1000 meter |
| Hazardous area classification | NA |
| Zone classification | NA |
| Gas group | NA |
| Temperature class | NA |
| Rotor type | Aluminum Die cast |
| Bearing type | Anti-friction ball bearing |
| DE / NDE bearing | 6317 C3 / 6317 C3 |
| Lubrication method | Regreasable |
| Type of grease | Shell Gadus S5 V100 or Equivalent |

| | |
|---|--|
| Degree of protection | IP 55 |
| Mounting type | IM B35 |
| Cooling method | IC 411 |
| Motor weight - approx. | 847 kg |
| Gross weight - approx. | 882 kg |
| Motor inertia | 2.7914 kgm ² |
| Load inertia | Customer to Provide |
| Vibration level | 2.2 mm/s |
| Noise level (1meter distance from motor) | 68 dB(A) |
| No. of starts hot/cold/Equally spread | 2/3/4 |
| Starting method | DOL |
| Type of coupling | Direct |
| LR withstand time (hot/cold) | 15/30 s |
| Direction of rotation | Bi-directional |
| Standard rotation | Clockwise form DE |
| Paint shade | RAL 5014 |
| Accessories | |
| Accessory - 1 | - |
| Accessory - 2 | - |
| Accessory - 3 | - |
| Terminal box position | TOP |
| Maximum cable size/conduit size | 1R x 3C x 95mm ² /2 x M50 x 1.5 |
| Auxiliary terminal box | NA |

I_A/I_N - Locked Rotor Current / Rated Current

T_K/T_N - Breakdown Torque / Rated Torque

T_A/T_N - Locked Rotor Torque / Rated Torque

NOTE

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

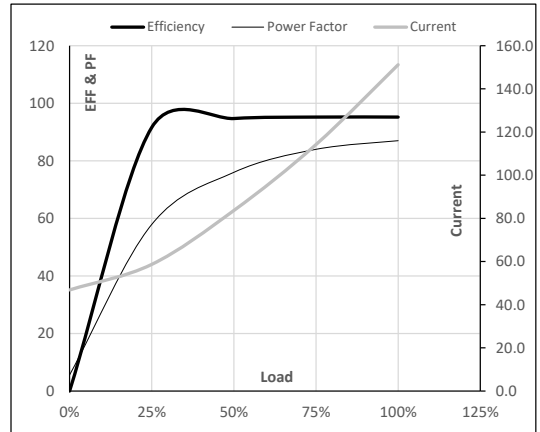
| Efficiency | Europe | China | India | Aus/Nz | Brazil | Global IEC |
|------------|--------|-------|-----------------|--------|--------|------------|
| Standards | - | - | IS 12615 : 2018 | - | - | - |

Model No. TCA0902A3131GACD01

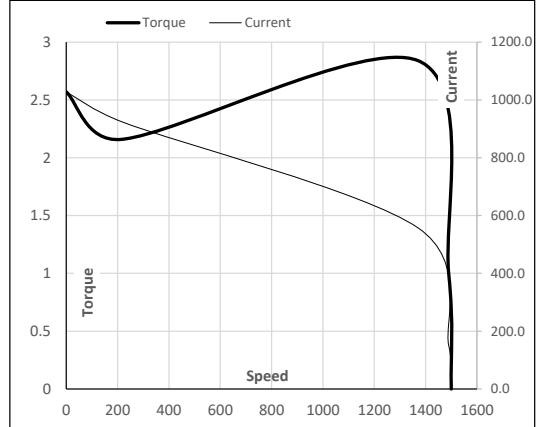
| Enclosure | U (V) | Δ / Y Conn | f (Hz) | P [kW] | P [hp] | I [A] | n [RPM] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg-m ²] | Weight [kg] |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC | 415 | Δ | 50 | 90 | 120.0 | 151.2 | 1490 | 58.49 | 573.57 | IE3 | 50 | S1 | 1000 | 2.7914 | 847 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|------|-------|-------|-------|-------|-------|
| Current | A | 46.9 | 58.7 | 83.7 | 114.2 | 151.2 | |
| Torque | Nm | 0.0 | 142.7 | 285.8 | 429.4 | 573.6 | |
| Speed | r/min | 1500 | 1498 | 1495 | 1493 | 1490 | |
| Efficiency | % | 0.0 | 91.6 | 94.7 | 95.2 | 95.2 | |
| Power Factor | % | 5.6 | 57.9 | 76.0 | 84.0 | 87.0 | |

Performance vs Load Chart

Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|--------|-------|-------|-------|------|
| Speed | r/min | 0 | 214 | 1371 | 1490 | 1500 |
| Current | A | 1028.0 | 925.2 | 557.3 | 151.2 | 46.9 |
| Torque | pu | 2.6 | 2.2 | 2.8 | 1 | 0 |

Starting Characteristics Chart

NOTE Refer data sheet for applicable standard and tolerances on performance parameters

 Issued By
Issued Date



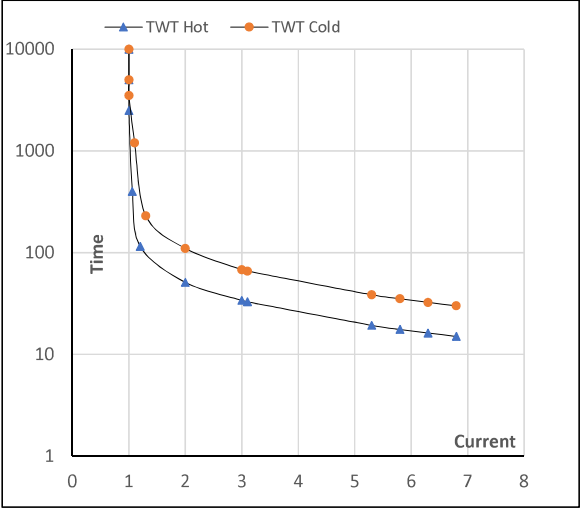
Model No. TCA0902A3131GACD01

| Enclosure | U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [rpm] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg·m ²] | Weight [kg] |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC | 415 | Δ | 50 | 90 | 120 | 151.2 | 1490 | 58.45 | 573.57 | IE3 | 50 | S1 | 1000 | 2.7914 | 847 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR |
|----------|---------|----------------|----------------|----------------|----------------|----------------|-----|
| TWT Hot | s 10000 | 51 | 34 | 30 | 22 | 18 | 15 |
| TWT Cold | s 10000 | 110 | 68 | 60 | 40 | 37 | 30 |
| Current | pu 1 | 2 | 3 | 4 | 5 | 5.5 | 6.8 |

Thermal Characteristics Chart



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

Issued By
Issued Date



EC Declaration of Conformity

The undersigned representing
the manufacturer:

Regal Beloit America
100 East Randolph St.
Wausau, WI 54401

and the authorized representative
established within the Community:

Marathon Electric UK
6F Thistleton Road Ind. Estate
Market Overton
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : TCA0902A3131GACD01

(Model No. may contain prefix and/or suffix characters)

Catalog No : TCA0902A3131GACD01

Rework No : N/A

Directives :

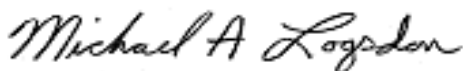
Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)

EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon
Vice President, Technology

Authorized Representative in the Community:



Julian Clark
Marketing Engineer

Created on 09/01/2022

CE 22