

## Data sheet for three-phase Squirrel-Cage-Motors

Totally Enclosed Fan Cooled (TEFC)



MLFB-Ordering data: 1LE2221-1AA31-4AA3

Motor type: GP100 - NEMA Premium Efficiency

Client order no.:

Order no.:

Offer no.:

Remarks:

Item no.:

Consignment no.:

Project:

| U<br>[V] | Δ/Y | f<br>[Hz] | P<br>[HP] | P<br>[kW] | n<br>[rpm] | I Load [Amps] |      |      |      |      | Nom. Eff Load [%] |      |      | Pwr. Factor Load [%] |      |      | Torque  | T <sub>A</sub> /T <sub>N</sub> | T <sub>k</sub> /T <sub>N</sub> |
|----------|-----|-----------|-----------|-----------|------------|---------------|------|------|------|------|-------------------|------|------|----------------------|------|------|---------|--------------------------------|--------------------------------|
|          |     |           |           |           |            | 4/4           | 3/4  | 1/2  | 0    | LRC  | 4/4               | 3/4  | 1/2  | 4/4                  | 3/4  | 1/2  | [lb-ft] | LRT [%]                        | BDT [%]                        |
| 460      | Y   | 60        | 2.00      | 1.50      | 3,515      | 2.50          | 2.00 | 1.60 | 1.20 | 23.0 | 85.5              | 85.7 | 84.0 | 87.6                 | 81.3 | 69.0 | 2.9     | 255                            | 431                            |
| 230      | YY  | 60        | 2.00      | 1.50      | 3,515      | 5.00          | 4.03 | 3.23 | 2.40 | 46.0 | 85.5              | 85.7 | 84.0 | 87.6                 | 81.3 | 69.0 | 2.9     | 255                            | 431                            |
|          |     |           |           |           |            |               |      |      |      |      |                   |      |      |                      |      |      |         |                                |                                |

|                 |                                                     |                   |                                     |              |            |
|-----------------|-----------------------------------------------------|-------------------|-------------------------------------|--------------|------------|
| Frame Type 145T | Type of constr.: ( A ) Foot mounted - End shield    | Ins. Cl.: F       | Motor Prot.: (A) Without Protection | NEMA Des.: B | S.F.: 1.15 |
| Mtr WT: 55 lbs  | Mounting: (3) F-1, Standard Floor Mount, T. Box LHS | Temp. Rise Cl.: B | Amb. Temp.: +40 to -20 °C @1000 m   | kVA: L       | IP55       |

## Mechanical data

### WK2

|                              |      |                    |
|------------------------------|------|--------------------|
| Rotor Moment of Inertia:     | 0    | Lb-ft <sup>2</sup> |
| Ext Load Inertia Capability: | 2.4  | Lb-ft <sup>2</sup> |
| <b>Safe Stall Time</b>       |      |                    |
| Hot:                         | 13.0 | s                  |
| Cold:                        | 18.0 | s                  |

### Typical Noise Data

|                  |      |       |
|------------------|------|-------|
| A-weighted Sound |      |       |
| Sound Pressure:  | 76.0 | dB(A) |
| Sound Power:     | 64.0 | dB(A) |

### Octave Band Center Frequencies Hertz

|            | 250  | 500  | 1000 | 2000 | 4000 | 8000 | Hz    |
|------------|------|------|------|------|------|------|-------|
| SPL@3 feet | 44.0 | 52.0 | 62.0 | 59.0 | 54.0 | 46.0 | dB(A) |

### Bearings

|               | DE            | NDE           |
|---------------|---------------|---------------|
| Bearing size: | 6205 ZZ C3 S0 | 6205 ZZ C3 S0 |
| Bearing Type: | Ball Bearing  | Ball Bearing  |
| AFBMA:        | 25BC02JPP30   | 25BC02JPP30   |

### Grease

|            |                 |    |      |    |
|------------|-----------------|----|------|----|
| Capacity:  | 0.10            | oz | 0.10 | oz |
| Type:      | Exxon Mobile EM |    |      |    |
| Thickener: | Polyurea        |    |      |    |

### Frame

|                         |                |
|-------------------------|----------------|
| Frame material:         | cast iron      |
| Coating (paint finish): | Standard Paint |
| Color, paint shade:     | RAL 7030       |

### Terminal box

|                        |                                           |
|------------------------|-------------------------------------------|
| Terminal box position: | (3) F-1, Standard Floor Mount, T. Box LHS |
|------------------------|-------------------------------------------|

### Lead Wire Connection

| Description: |       |       | 9 LEAD - WYE |                    |     |
|--------------|-------|-------|--------------|--------------------|-----|
| Voltage      | L1    | L2    | L3           | Connected together |     |
| LOW          | T1 T7 | T2 T8 | T3 T9        | T4 T5 T6           | Y Y |
| HIGH         | T1    | T2    | T3           | T4 T7-T5 T8-T6 T9  | Y   |

### Ventilation Type

|                  |               |
|------------------|---------------|
| Type of Cooling: | TEFC          |
| Fan Material:    | Polypropylen  |
| Fan Rotation:    | Bidirectional |

### Additional information

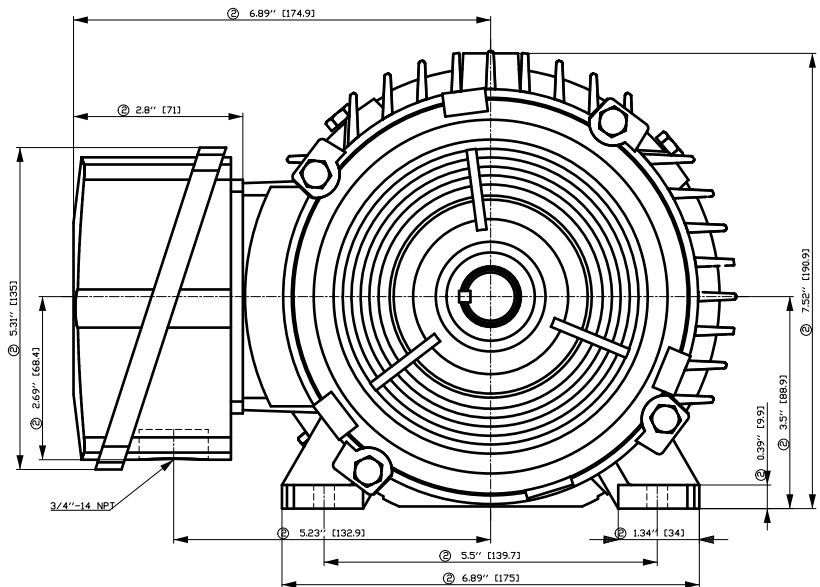
|                       |         |          |
|-----------------------|---------|----------|
| VFD Operation:        | CT: 4:1 | VT: 20:1 |
| Area: classification: | without |          |

### Notes

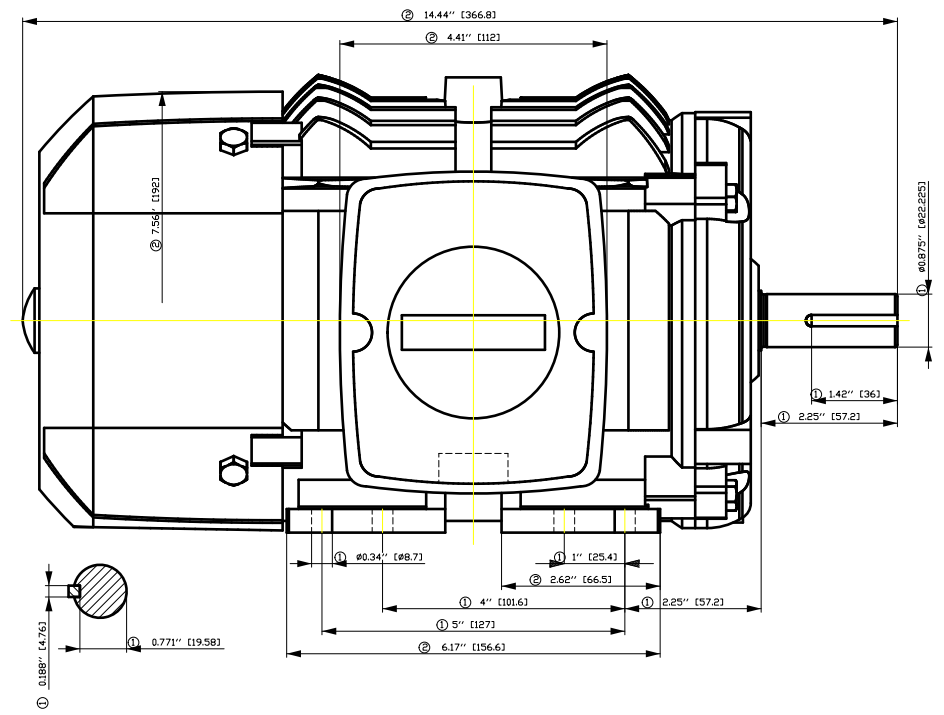
$I_L/I_N$  = locked rotor current / current nominal  $T_k/T_N$  = break down torque / nominal torque  
 $T_A/T_N$  = locked rotor torque / torque nominal <sup>1)</sup> Value is valid only for DOL operation with motor design IC411

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

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2020-09-17 01:22



- ① Tolerances according to NEMA std.
- ② All these dimensions corresponding to assemblies and castings shall have a tolerance as per DIN standard 1686-GTB 19.
- ③ Not according to NEMA std.

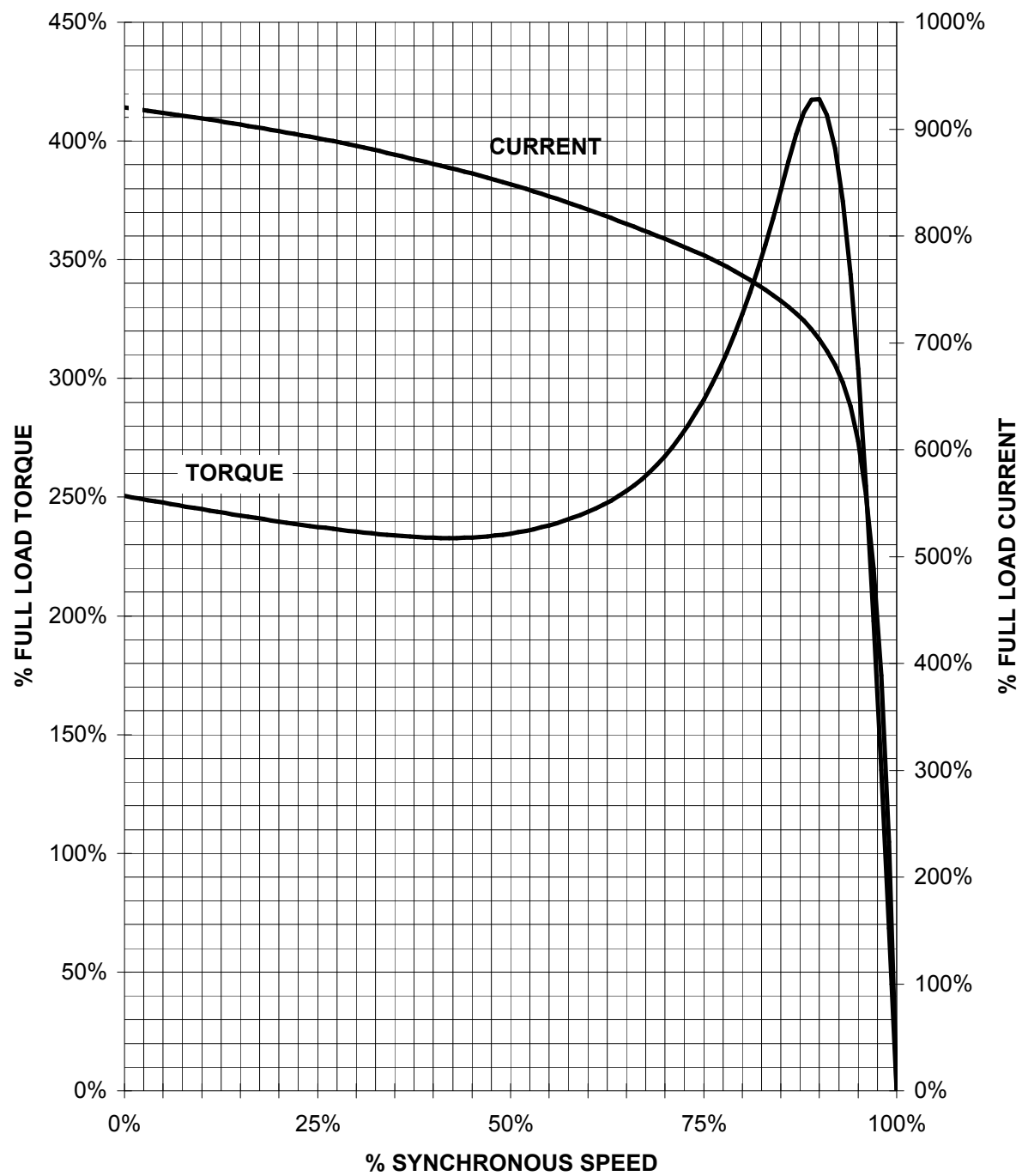


|                                                                                       |                      |                                     |                    |                                                                                                      |
|---------------------------------------------------------------------------------------|----------------------|-------------------------------------|--------------------|------------------------------------------------------------------------------------------------------|
| Tolerance                                                                             | Surface              | Material                            | Weight<br>-        | Scale<br><br>mm |
| 1LE2221-1AA31-4AA3<br>-                                                               | Author               | Dimensional drawing<br>Maßzeichnung |                    |                                                                                                      |
|                                                                                       | Creator<br>DTK       |                                     |                    |                                                                                                      |
|                                                                                       | Approval             |                                     |                    |                                                                                                      |
|                                                                                       | Department           |                                     |                    |                                                                                                      |
|                                                                                       | Change Order         |                                     |                    |                                                                                                      |
|  | Doc State<br>9/17/20 | MLFB                                | Doc Type<br>       |                                                                                                      |
|                                                                                       | Doc Date             | Item No                             | Paper Size<br>A3   |                                                                                                      |
|                                                                                       | Revision<br>Index RS | Doc No                              | 1st Language<br>en |                                                                                                      |
|                                                                                       |                      |                                     | 2nd Language<br>de |                                                                                                      |
| © Siemens AG 2018                                                                     | Project No -         | Ref No -                            | Sheet 1 of 1       |                                                                                                      |

SIEMENS INDUSTRY, INC.

HP 2 VOLTS < 600V RPM 3600 TYPE GP100  
HZ 60 PHASE 3 FRAME 145T NEMA B

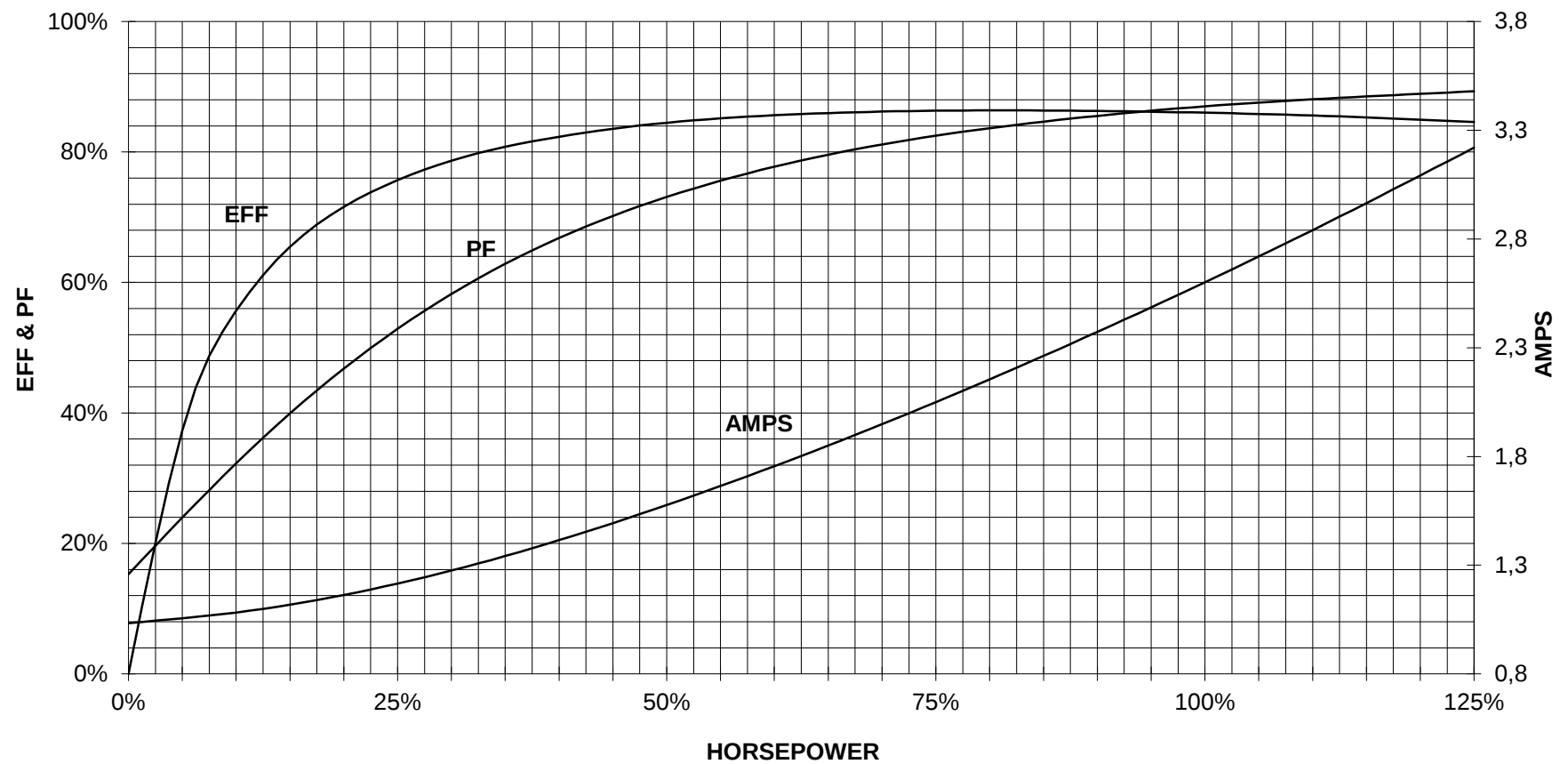
TORQUE & CURRENT VS. SPEED



CUSTOMER: \_\_\_\_\_ ORDER#: \_\_\_\_\_

2 HP    3600 RPM    145T FRAME    460 VOLTS    3 PHASE    NEMA DESIGN B

**SIEMENS INDUSTRY, INC.**  
**PERFORMANCE CURVE**  
**GP100**



CUSTOMER \_\_\_\_\_ ORDER # \_\_\_\_\_ PO # \_\_\_\_\_

PERFORMANCE BASED ON DESIGN CALCULATIONS. SUBJECT TO CHANGE WITHOUT NOTICE.

REV. 1

Main terminal diagram



| 9 LEAD WYE |          |          |          |                    |       |  |
|------------|----------|----------|----------|--------------------|-------|--|
| Volts      | LINES    |          |          | CONNECTED TOGETHER | CONN. |  |
|            | L1       | L2       | L3       |                    |       |  |
| LOW        | T1<br>T7 | T2<br>T6 | T3<br>T9 | T4 T5 T6           | Y Y   |  |
| HIGH       | T1       | T2       | T3       | T4 T7-T5 T8-T6 T9  | Y     |  |

responsible dep.  
DI MC LVM

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document type  
Wiring Diagram

title  
1LE2221-1AA31-4AA3

document status  
free

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