

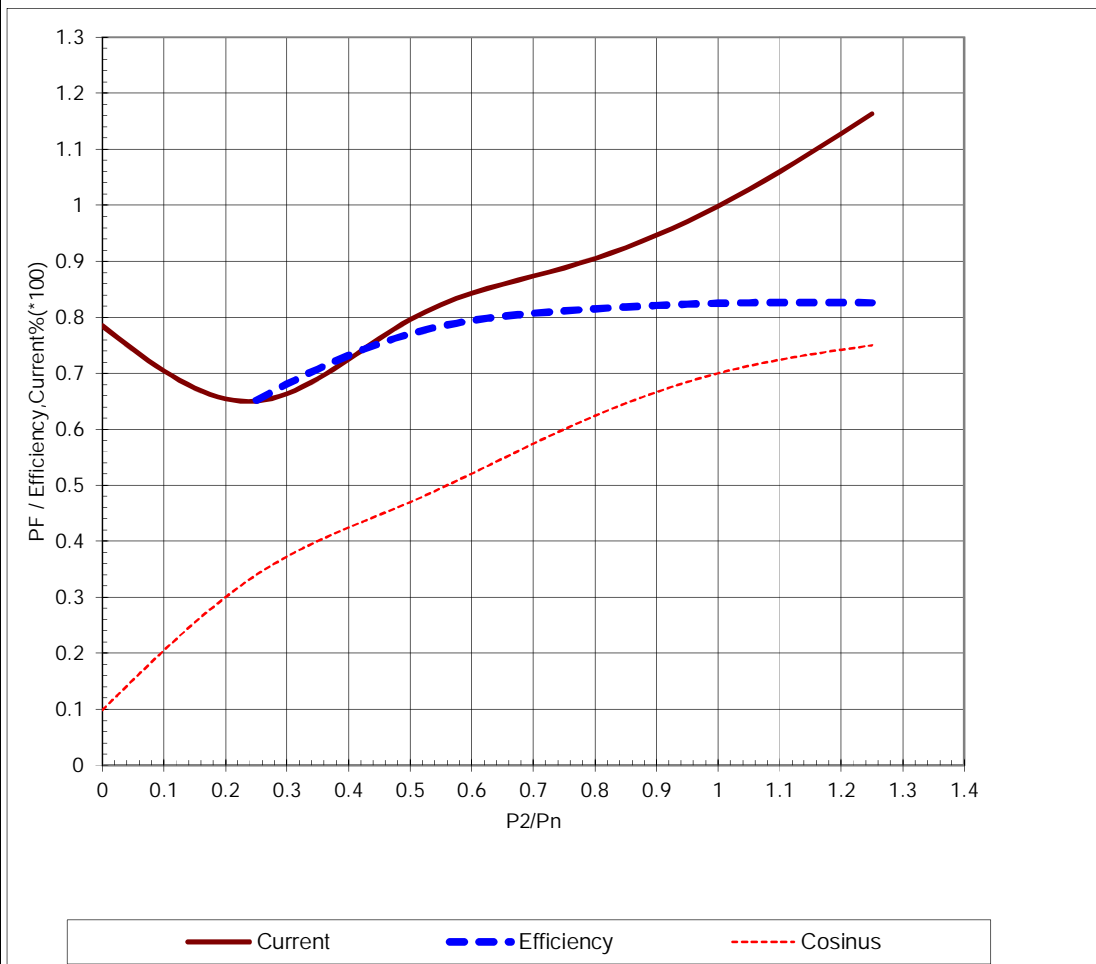


| ABB Motors and Generators          |  | Technical Data Sheet                                |                   |                   |  |              |
|------------------------------------|--|---|-------------------|-------------------|---|--------------|
| Department/Author                  |  | Project   | Location          |                   | Item name   |              |
| Our ref.                           |  | Rev/Changed by                                      | Date of issue     | Saving ident      | Pages   |              |
|                                    |  | A   | 1/18/2019         | untitled.xls      | 1.00001<br>1(3)   |              |
| No.                                | Definition   | Data  | Unit              | Remarks           |   |              |
| 1                                  | Product  | <b>TEFC, 3-phase, squirrel cage induction motor</b> |                   |                   |   |              |
| 2                                  | Product code                                       | <b>3GBA 082 410-HSDIN</b>                           |                   |                   | Calc. ref.  | 3GZH021008-4 |
| 3                                  | Type/Frame   | <b>M2BAX 80MLA 4</b>                                |                   |                   |   |              |
| 4                                  | Mounting   | <b>IM2001, B35(foot-flange)</b>                     |                   |                   |   |              |
| 5                                  | Rated output P <sub>N</sub>                        | <b>0.75</b>   | kW                |                   |   |              |
| 6                                  | Service factor                                     | <b>1</b>  |                   |                   |   |              |
| 7                                  | Type of duty                                       | <b>S1 100%</b>                                      |                   |                   |   |              |
| 8                                  | Rated voltage U <sub>N</sub>                       | <b>415</b>  | VY                | +10, -10 %        |   |              |
| 9                                  | Rated frequency f <sub>N</sub>                     | <b>50</b>   | Hz                | +5, -5 %          |   |              |
| 10                                 | Rated speed n <sub>N</sub>                         | <b>1445</b>   | r/min             |                   |   |              |
| 11                                 | Rated current I <sub>N</sub>                       | <b>2.05</b>   | A                 |                   |   |              |
| 12                                 |  |   |                   |                   |   |              |
| 13                                 | Starting current I <sub>s</sub> /I <sub>N</sub>    | <b>4.5</b>  |                   |                   |   |              |
| 14                                 | Nominal torque T <sub>N</sub>                      | <b>5</b>  | Nm                |                   |   |              |
| 15                                 | Locked rotor torque T <sub>S</sub> /T <sub>N</sub> | <b>3.5</b>  |                   |                   |   |              |
| 16                                 | Maximum torque T <sub>max</sub> /T <sub>N</sub>    | <b>3.9</b>  |                   |                   |   |              |
| 17                                 |  |   |                   |                   |   |              |
| 18                                 |  |   |                   |                   |   |              |
| Load characteristics               |  | Load %  | Current A         | Efficiency %      | Power factor  |              |
| 19                                 | PLL determined from residual loss                  | <b>100</b>  | <b>2.05</b>       | <b>82.5 / IE3</b> | <b>0.7</b>  |              |
| 20                                 |  | <b>75</b>   | <b>1.61</b>       | <b>81.1</b>       | <b>0.6</b>  |              |
| 21                                 |  | <b>50</b>   | <b>1.44</b>       | <b>77.1</b>       | <b>0.47</b>   |              |
| 22                                 |  |   |                   |                   |   |              |
| 23                                 | Thermal withstand time hot                         | <b>12</b>   | s                 |                   |   |              |
| 24                                 | Thermal withstand time cold                        | <b>20</b>   | s                 |                   |   |              |
| 25                                 | Insulation class / Temperature class               | <b>F / B</b>  |                   |                   |   |              |
| 26                                 | Ambient temperature                                | <b>50</b>   | °C                |                   |   |              |
| 27                                 | Altitude   | <b>1000</b> m.a.s.l.                                |                   |                   |   |              |
| 28                                 | Degree of protection                               | <b>IP55</b>   |                   |                   |   |              |
| 29                                 | Cooling system                                     | <b>IC411 self ventilated</b>                        |                   |                   |   |              |
| 30                                 | Bearing DE/NDE                                     | <b>6204-2Z/C3 - 6203-2Z/C3</b>                      |                   |                   |   |              |
| 31                                 | Sound pressure level (LP dB(A) 1m)                 | <b>64</b>   | dB(A)             | at no-load        |   |              |
| 32                                 | Moment of inertia J = ¼ GD <sup>2</sup>            | <b>0.00309</b>                                      | kg·m <sup>2</sup> |                   |   |              |
| 33                                 | Position of terminal box                           | <b>Top</b>  |                   |                   |   |              |
| 34                                 | Direction of rotation                              | <b>Bi-directional</b>                               |                   |                   |   |              |
| 35                                 | Weight of rotor                                    | <b>5</b>  | kg                |                   |   |              |
| 36                                 | Total weight of motor                              | <b>20</b>   | kg                |                   |   |              |
| 37                                 |  |   |                   |                   |   |              |
| 38                                 |  |   |                   |                   |   |              |
| 39                                 |  |   |                   |                   |   |              |
| 40                                 |  |   |                   |                   |   |              |
| 41                                 |  |   |                   |                   |   |              |
| 42                                 |  |   |                   |                   |   |              |
| 43                                 |  |   |                   |                   |   |              |
| 44                                 |  |   |                   |                   |   |              |
| 45                                 |  |   |                   |                   |   |              |
| Ex-motors                          |  |   |                   |                   |   |              |
| 46                                 |  |   |                   |                   |   |              |
| 47                                 |  |   |                   |                   |   |              |
| 48                                 |  |   |                   |                   |   |              |
| Option Variant Codes / Definition  |  |   |                   |                   |   |              |
| 49                                 |  |   |                   |                   |   |              |
| 50                                 |  |   |                   |                   |   |              |
| 51                                 |  |   |                   |                   |   |              |
| 52                                 |  |   |                   |                   |   |              |
| Remarks:                           |  |   |                   |                   |   |              |
| Data based on situation 12/21/2015 |  |   |                   |                   |   |              |

All performance values are subject to IS/IEC tolerances


|                                  |   |                                   |   |
|----------------------------------|---|-----------------------------------|---|
| <b>ABB Motors and Generators</b> | <b>Load Curves</b>  |                                   |  |
|                                  | Project   | Location                          |   |
| Department/Author                | Customer name   | Customer ref.                     | Item name<br><b>1.00001</b>   |
| Our ref.                         | Rev/Changed by<br><b>A</b>                                  | Date of issue<br><b>1/18/2019</b> | Saving ident<br><b>untitled.xls</b>   |
| Pages<br><b>2(3)</b>             | Product <b>TEFC, 3-phase, squirrel cage induction motor</b> |                                   |   |
| Type/Frame                       | <b>M2BAX 80MLA 4</b>  | Calc. ref.                        | <b>3GZH021008-4</b>   |
| Product code                     | <b>3GBA 082 410-HSDIN</b>                                   |                                   |   |
| Rated output P <sub>N</sub>      | <b>0.75 kW</b>  |                                   |   |
| Type of duty                     | <b>S1 100%</b>  |                                   |   |

|                |            |                            |             |                                  |             |
|----------------|------------|----------------------------|-------------|----------------------------------|-------------|
| Voltage (V)    | <b>415</b> | Current I <sub>N</sub> (A) | <b>2.05</b> | Power factor at P <sub>N</sub>   | <b>0.7</b>  |
| Frequency (Hz) | <b>50</b>  | Speed (r/min)              | <b>1445</b> | Efficiency (%) at P <sub>N</sub> | <b>82.5</b> |




Data based on situation 12/21/2015

All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

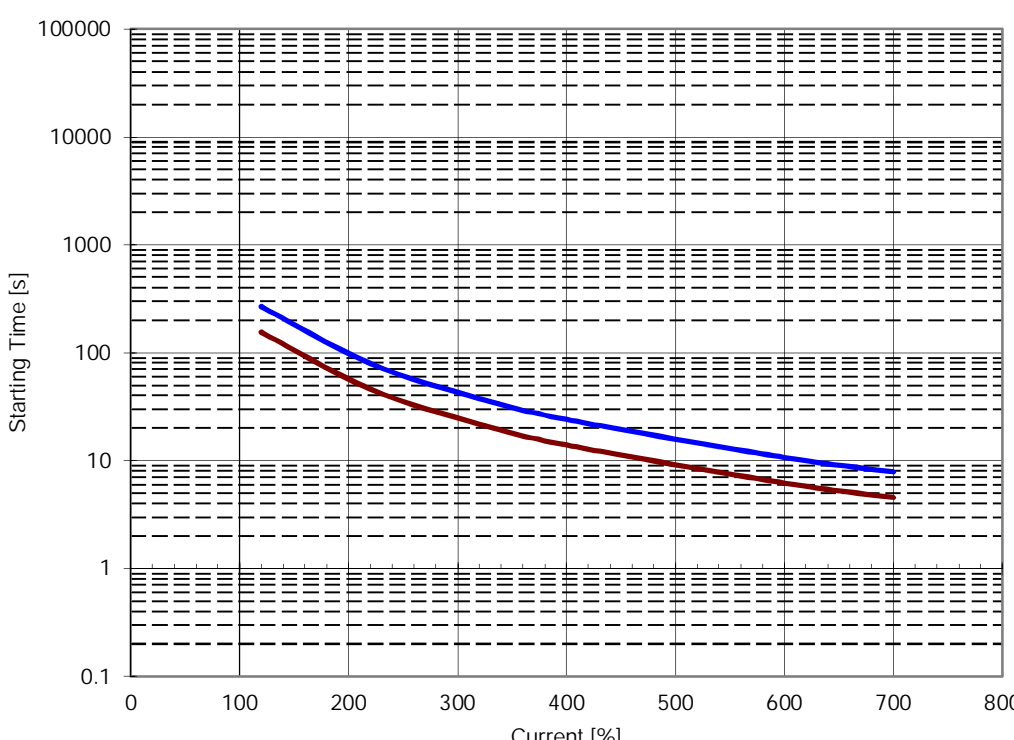
| ABB Motors and Generators              | Starting Curves                                     |                                    |                                     |  |
|--|---|------------------------------------|-------------------------------------|---|
|  | Project   | Location                           |                                     |   |
| Department/Author                      | Customer name                                       | Customer ref.                      |                                     | Item name<br><b>1.00001</b>   |
| Our ref.                               | Rev/Changed by<br><b>A</b>                          | Date of issue<br><b>1/18/2019</b>  | Saving ident<br><b>untitled.xls</b> | Pages<br><b>3(3)</b>  |
| Type of product                        | <b>TEFC, 3-phase, squirrel cage induction motor</b> |                                    |                                     |   |
| Type/Frame                             | <b>M2BAX 80MLA 4</b>                                | Calc. ref.                         | <b>3GZH021008-4</b>                 |   |
| Product code                           | <b>3GBA 082 410-HSDIN</b>                           | Frequency (Hz)                     | <b>50</b>                           |   |
| Rated output P <sub>N</sub>            | <b>0.75 kW</b>                                      | Rated current I <sub>N</sub>       | <b>2.05</b>                         | <b>A</b>  |
| Type of duty                           | <b>S1 100%</b>                                      |                                    |                                     |   |
| J <sub>motor</sub> (kgm <sup>2</sup> ) | <b>0.0031</b>                                       | Voltage (V) 100%                   | <b>415</b>                          | Voltage (V) <b>415V(100%)</b>   |
| J <sub>load</sub> (kgm <sup>2</sup> )  |   | T <sub>start</sub> /T <sub>N</sub> | <b>3.5</b>                          | T <sub>start</sub> /T <sub>N</sub> <b>3.5</b>                                       |
| Speed (r/min)                          | <b>1445</b>   | Starting time (s)                  |                                     | Starting time (s)   |
| T <sub>N</sub> (Nm)                    | <b>5</b>  | Speed (r/min)                      |                                     | Speed (r/min) <b>939</b>  |
| T <sub>load</sub> (Nm)                 |   | I <sub>s</sub> /I <sub>n</sub>     | <b>4.5</b>                          | I <sub>s</sub> /I <sub>n</sub> <b>4.5</b>   |
|  |   | T <sub>max</sub> /T <sub>n</sub>   | <b>3.9</b>                          | T <sub>max</sub> /T <sub>n</sub> <b>3.9</b>   |

Data based on situation 12/21/2015  
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

|  |   |                                    |   |
|--|---|------------------------------------|---|
| <b>ABB Motors and Generators</b>       | <b>Thermal Withstand Curve</b>                      |                                    |  |
|  | Project   | Location                           |   |
| Department/Author                      | Customer name                                       | Customer ref.                      | Item name<br><b>1.00001</b>   |
| Our ref.                               | Rev/Changed by<br><b>A</b>                          | Date of issue<br><b>1/18/2019</b>  | Saving ident<br><b>untitled.xls</b>   |
| Type of product                        | <b>TEFC, 3-phase, squirrel cage induction motor</b> |                                    |   |
| Type/Frame                             | <b>M2BAX 80MLA 4</b>                                | Calc. ref.                         | <b>3GZH021008-4</b>   |
| Product code                           | <b>3GBA 082 410-HSDIN</b>                           | Frequency (Hz)                     | <b>50</b>   |
| Rated output P <sub>N</sub>            | <b>0.75 kW</b>                                      | Rated current I <sub>N</sub>       | <b>2.05 A</b>   |
| Type of duty                           | <b>S1 100%</b>                                      |                                    |   |
| J <sub>motor</sub> (kgm <sup>2</sup> ) | <b>0.0031</b>                                       | Voltage (V) 100%                   | <b>415</b>  |
| J <sub>load</sub> (kgm <sup>2</sup> )  |   | T <sub>start</sub> /T <sub>N</sub> | <b>3.5</b>  |
| Speed (r/min)                          | <b>1445</b>   | Starting time (s)                  |   |
| T <sub>N</sub> (Nm)                    | <b>5</b>  | Speed (r/min)                      | <b>939</b>  |
| T <sub>load</sub> (Nm)                 |   | I <sub>s</sub> /I <sub>n</sub>     | <b>4.5</b>  |
|  |   | T <sub>max</sub> /T <sub>n</sub>   | <b>3.9</b>  |
|  |   | Voltage (V)                        | <b>415V(100%)</b>   |
|  |   | T <sub>start</sub> /T <sub>N</sub> | <b>3.5</b>  |
|  |   | Starting time (s)                  |   |
|  |   | Speed (r/min)                      | <b>939</b>  |
|  |   | I <sub>s</sub> /I <sub>n</sub>     | <b>4.5</b>  |
|  |   | T <sub>max</sub> /T <sub>n</sub>   | <b>3.9</b>  |



— Running Hot      — Running Cold

Data based on situation 12/21/2015  
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004