

Linear motor **GD160D**

 Revision **2** 19/10/2016
Motor Specification

| | | GD160D |
|--|------------------|---------------|
| Peak Force ⁽⁶⁾ | N | 57 |
| Continuous stall force (passive cooling) | N | 12,8 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 5,27 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 204,6 |
| Continuous stall force (with heatsink plate) | N | 13,6 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 24,2 |

Electrical Specification

| | | GD160D |
|--|------------|---------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Arms | 2,68 |
| Continuous stall current (passive cooling) | Arms | 0,60 |
| Continuous stall current (with heatsink plate) | Arms | 0,64 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 1,14 |
| Force constant | N/Arms | 21,27 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 17,37 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 12,28 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 31,1 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 44,5 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 17,11 |
| Electrical time constant | ms | 0,550 |
| Motor constant | N/√W | 2,602 |

Thermal Specification IC40

| | | GD160D |
|---|------|---------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 24,05 |
| Thermal resistance (case-ambient) | °C/W | 1,801 |
| Thermal resistance (winding-case) | °C/W | 2,755 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 4,552 |
| Thermal time constant ⁽⁵⁾ | s | 826 |

Mechanical Specification

| | | GD160D |
|---------------------------------------|------|---------------|
| Stator length | mm | 161 |
| Stator flange dimension | mm | 66X66 |
| Stator mass | kg | 1,2 |
| Slider length (min/max) | mm | 249 / 2019 |
| Slider diameter | mm | 16 |
| Slider mass | kg/m | 1,41 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD160D |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD160T**

 Revision **1** **01/12/2015**
Motor Specification

| | | GD160T |
|--|------------------|---------------|
| Peak Force ⁽⁶⁾ | N | 81 |
| Continuous stall force (passive cooling) | N | 18,2 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 6,12 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 253,24 |
| Continuous stall force (with heatsink plate) | N | 19,1 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 34,5 |

Electrical Specification

| | | GD160T |
|--|------------|---------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 3,60 |
| Peak current ⁽⁶⁾ | Arms | 2,55 |
| Continuous stall current (passive cooling) | Arms | 0,57 |
| Continuous stall current (with heatsink plate) | Arms | 0,60 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 1,08 |
| Force constant | N/Arms | 31,89 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 26,04 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 18,41 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 44 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 63,0 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 27 |
| Electrical time constant | ms | 0,614 |
| Motor constant | N/√W | 3,280 |

Thermal Specification IC40

| | | GD160T |
|---|------|---------------|
| Max. winding temperature | °C | 180 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 30,71 |
| Thermal resistance (case-ambient) | °C/W | 1,550 |
| Thermal resistance (winding-case) | °C/W | 2,030 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 3,580 |
| Thermal time constant ⁽⁵⁾ | s | 1212 |

Mechanical Specification

| | | GD160T |
|---------------------------------------|------|---------------|
| Stator length | mm | 191 |
| Stator flange dimension | mm | 66X66 |
| Stator mass | kg | 1,5 |
| Slider length (min/max) | mm | 249 / 2019 |
| Slider diameter | mm | 16 |
| Slider mass | kg/m | 1,41 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD160T |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD160Q**

 Revision **1** **17/05/2016**
Motor Specification

| | | GD160Q |
|--|------------------|---------------|
| Peak Force ⁽⁶⁾ | N | 105 |
| Continuous stall force (passive cooling) | N | 23,6 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 6,82 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 292,85 |
| Continuous stall force (with heatsink plate) | N | -- |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 44,8 |

Electrical Specification

| | | GD160Q |
|--|------------|---------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 3,50 |
| Continuous stall current (passive cooling) | Arms | 0,55 |
| Continuous stall current (with heatsink plate) | Arms | -- |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 1,05 |
| Force constant | N/Arms | 42,83 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 34,97 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 24,73 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 58,11 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 83,2 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 33,57 |
| Electrical time constant | ms | 0,578 |
| Motor constant | N/√W | 3,799 |

Thermal Specification IC40

| | | GD160Q |
|---|------|---------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 38,46 |
| Thermal resistance (case-ambient) | °C/W | 1,210 |
| Thermal resistance (winding-case) | °C/W | 1,680 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 2,890 |
| Thermal time constant ⁽⁵⁾ | s | 1424 |

Mechanical Specification

| | | GD160Q |
|---------------------------------------|------|---------------|
| Stator length | mm | 219 |
| Stator flange dimension | mm | 66X66 |
| Stator mass | kg | 1,75 |
| Slider length (min/max) | mm | 249 / 2019 |
| Slider diameter | mm | 16 |
| Slider mass | kg/m | 1,41 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD160Q |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD250DS**

 Revision **2** 28/07/2016
Motor Specification

| | | GD250DS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 167 |
| Continuous stall force (passive cooling) | N | 37,4 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 5,78 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 258,74 |
| Continuous stall force (with heatsink plate) | N | 39,6 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 71,1 |

Electrical Specification

| | | GD250DS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 8,90 |
| Continuous stall current (passive cooling) | Arms | 1,40 |
| Continuous stall current (with heatsink plate) | Arms | 1,48 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 2,66 |
| Force constant | N/Arms | 26,74 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 21,84 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 15,44 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 10,7 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 15,3 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 18,4 |
| Electrical time constant | ms | 1,720 |
| Motor constant | N/√W | 5,578 |

Thermal Specification IC40

| | | GD250DS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 45,06 |
| Thermal resistance (case-ambient) | °C/W | 1,030 |
| Thermal resistance (winding-case) | °C/W | 1,360 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 2,400 |
| Thermal time constant ⁽⁵⁾ | s | 1327 |

Mechanical Specification

| | | GD250DS |
|---------------------------------------|------|----------------|
| Stator length | mm | 160 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 2,1 |
| Slider length (min/max) | mm | 220 / 1990 |
| Slider diameter | mm | 25 |
| Slider mass | kg/m | 3,55 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD250DS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD350DS**

 Revision **0** **12.11.2018**
Motor Specification ** preliminary **

| | | GD350DS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 194 |
| Continuous stall force (passive cooling) | N | 43,5 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 5,80 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | |
| Continuous stall force (with heatsink plate) | N | 45,3 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 82,6 |

Electrical Specification

| | | GD350DS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 7,43 |
| Continuous stall current (passive cooling) | Arms | 1,66 |
| Continuous stall current (with heatsink plate) | Arms | 1,73 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 3,16 |
| Force constant | N/Arms | 26,66 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 21,77 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 15,39 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 7,56 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 10,8 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 7,6 |
| Electrical time constant | ms | -- |
| Motor constant | N/√W | -- |

Thermal Specification IC40

| | | GD350DS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | -- |
| Thermal resistance (case-ambient) | °C/W | -- |
| Thermal resistance (winding-case) | °C/W | -- |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | -- |
| Thermal time constant ⁽⁵⁾ | s | -- |

Mechanical Specification

| | | GD350DS |
|---------------------------------------|------|----------------|
| Stator length w/o flange | mm | 138 |
| Stator flange dimension | mm | -- |
| Stator mass | kg | -- |
| Slider length (min/max) | mm | -- |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD350DS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD250TS**

 Revision **5** **08/03/2017**
Motor Specification

| | | GD250TS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 225 |
| Continuous stall force (passive cooling) | N | 50,4 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 6,63 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 297,14 |
| Continuous stall force (with heatsink plate) | N | 53,2 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 95,8 |

Electrical Specification

| | | GD250TS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 5,70 |
| Continuous stall current (passive cooling) | Arms | 1,27 |
| Continuous stall current (with heatsink plate) | Arms | 1,34 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 2,41 |
| Force constant | N/Arms | 39,70 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 32,41 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 22,92 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 16,27 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 23,3 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 26,55 |
| Electrical time constant | ms | 1,632 |
| Motor constant | N/√W | 6,715 |

Thermal Specification IC40

| | | GD250TS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 56,38 |
| Thermal resistance (case-ambient) | °C/W | 0,950 |
| Thermal resistance (winding-case) | °C/W | 1,030 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,980 |
| Thermal time constant ⁽⁵⁾ | s | 1618 |

Mechanical Specification

| | | GD250TS |
|---------------------------------------|------|----------------|
| Stator length | mm | 190 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 2,6 |
| Slider length (min/max) | mm | 220 / 1990 |
| Slider diameter | mm | 25 |
| Slider mass | kg/m | 3,55 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD250TS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD250QS**

 Revision **2** 14/07/2017
Motor Specification

| | | GD250QS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 293 |
| Continuous stall force (passive cooling) | N | 65,5 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 7,39 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 101,7 |
| Continuous stall force (with heatsink plate) | N | 68,7 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 130,9 |

Electrical Specification

| | | GD250QS |
|--|-------------------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | A _{pk} | 5,00 |
| Continuous stall current (passive cooling) | A _{rms} | 1,20 |
| Continuous stall current (with heatsink plate) | A _{rms} | 1,26 |
| Continuous stall current (fan cooling) | A _{rms} | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | A _{rms} | 2,40 |
| Force constant | N/A _{rms} | 54,54 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | V _{pk} /(m/s) | 44,53 |
| Back EMF constant (ph-ph) | V _{rms} /(m/s) | 31,49 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 21,45 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 30,7 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 34,99 |
| Electrical time constant | ms | 1,631 |
| Motor constant | N/√W | 8,059 |

Thermal Specification IC40

| | | GD250QS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 65,95 |
| Thermal resistance (case-ambient) | °C/W | 0,789 |
| Thermal resistance (winding-case) | °C/W | 0,903 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,470 |
| Thermal time constant ⁽⁵⁾ | s | 1777 |

Mechanical Specification

| | | GD250QS |
|---------------------------------------|------|----------------|
| Stator length | mm | 210 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 3,61 |
| Slider length (min/max) | mm | 240 / 2010 |
| Slider diameter | mm | 25 |
| Slider mass | kg/m | 3,55 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD250QS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 V _{pp} |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD350TS**

 Revision **0** **08/04/2016**
Motor Specification

| | | GD350TS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 389 |
| Continuous stall force (passive cooling) | N | 86,9 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 5,80 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 213,88 |
| Continuous stall force (with heatsink plate) | N | 90,6 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 165,1 |

Electrical Specification

| | | GD350TS |
|--|-------------------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | A _{pk} | 10,30 |
| | | 7,29 |
| Continuous stall current (passive cooling) | A _{rms} | 1,63 |
| Continuous stall current (with heatsink plate) | A _{rms} | 1,70 |
| Continuous stall current (fan cooling) | A _{rms} | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | A _{rms} | 3,10 |
| Force constant | N/A _{rms} | 53,31 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | V _{pk} /(m/s) | 43,53 |
| Back EMF constant (ph-ph) | V _{rms} /(m/s) | 30,78 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 11,34 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 16,2 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 11,33 |
| Electrical time constant | ms | 0,999 |
| Motor constant | N/√W | 11,003 |

Thermal Specification IC40

| | | GD350TS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 62,37 |
| Thermal resistance (case-ambient) | °C/W | 1,062 |
| Thermal resistance (winding-case) | °C/W | 0,763 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,825 |
| Thermal time constant ⁽⁵⁾ | s | 1825 |

Mechanical Specification

| | | GD350TS |
|---------------------------------------|------|----------------|
| Stator length | mm | 226 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 2,8 |
| Slider length (min/max) | mm | 536 / 2302 |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD350TS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 V _{pp} |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor
GD350QS

Revision

1

18/01/2017

Motor Specification

| | | GD350QS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 445 |
| Continuous stall force (passive cooling) | N | 99,5 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 6,20 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 242,46 |
| Continuous stall force (with heatsink plate) | N | 106,7 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 189,1 |

Electrical Specification

| | | GD350QS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 6,26 |
| Continuous stall current (passive cooling) | Arms | 1,40 |
| Continuous stall current (with heatsink plate) | Arms | 1,50 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 2,66 |
| Force constant | N/Arms | 71,10 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 58,05 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 41,05 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 14,14 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 20,3 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 17,84 |
| Electrical time constant | ms | 1,262 |
| Motor constant | N/√W | 12,900 |

Thermal Specification IC40

| | | GD350QS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 59,54 |
| Thermal resistance (case-ambient) | °C/W | 0,980 |
| Thermal resistance (winding-case) | °C/W | 0,900 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,880 |
| Thermal time constant ⁽⁵⁾ | s | 2156 |

Mechanical Specification

| | | GD350QS |
|---------------------------------------|------|----------------|
| Stator length | mm | 247 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 3,45 |
| Slider length (min/max) | mm | 536 / 2302 |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD350QS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD250XS**

 Revision **1** **13/07/2017**
Motor Specification

| | | GD250XS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 509 |
| Continuous stall force (passive cooling) | N | 113,7 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 8,75 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 405,4 |
| Continuous stall force (with heatsink plate) | N | 119,4 |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 227,5 |

Electrical Specification

| | | GD250XS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 9,40 |
| Continuous stall current (passive cooling) | Arms | 2,10 |
| Continuous stall current (with heatsink plate) | Arms | 2,21 |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 4,20 |
| Force constant | N/Arms | 54,16 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 44,22 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 31,27 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 11,04 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 15,8 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 16,78 |
| Electrical time constant | ms | 1,520 |
| Motor constant | N/√W | 11,121 |

Thermal Specification IC40

| | | GD250XS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 104,60 |
| Thermal resistance (case-ambient) | °C/W | 0,602 |
| Thermal resistance (winding-case) | °C/W | 0,441 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,043 |
| Thermal time constant ⁽⁵⁾ | s | 2694 |

Mechanical Specification

| | | GD250XS |
|---------------------------------------|------|----------------|
| Stator length | mm | 340 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 5,84 |
| Slider length (min/max) | mm | 240 / 2010 |
| Slider diameter | mm | 25 |
| Slider mass | kg/m | 3,55 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD250XS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

| | |
|---------------------|-------------------|
| Linear motor | GD350XS_P |
| Revision | 1 |
| | 21/06/2017 |

Motor Specification

| | | GD350XS_P |
|--|------------------|-----------|
| Peak Force (6) | N | 781 |
| Continuous stall force (passive cooling) | N | 174,5 |
| Max. velocity (1)(3) | m/s | 10,72 |
| Max. acceleration (2)(3) | m/s ² | 153,13 |
| Continuous stall force (with heatsink plate) | N | -- |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) (7) | N | -- |

Electrical Specification

| | | GD350XS_P |
|--|------------|-----------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current (6) | Arms | 22,80 |
| Continuous stall current (passive cooling) | Arms | 5,10 |
| Continuous stall current (with heatsink plate) | Arms | -- |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) (7) | Arms | -- |
| Force constant | N/Arms | 34,23 |
| Back EMF constant (ph-ph) (4) | Vpk/(m/s) | 27,94 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 19,76 |
| Resistance @ 25°C (ph-ph) (4) | Ohm | 1,8 |
| Resistance @ 135°C (ph-ph) (4) | Ohm | 2,6 |
| Inductance (ph-ph) (4) | mH | 2,1 |
| Electrical time constant | ms | 1,167 |
| Motor constant | N/?W | 17,702 |

Thermal Specification IC40

| | | GD350XS_P |
|--|------|-----------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation (5) | W | 97,23 |
| Thermal resistance (case-ambient) | °C/W | 0,650 |
| Thermal resistance (winding-case) | °C/W | 0,450 |
| Thermal resistance (winding-ambient) (5) | °C/W | 1,100 |
| Thermal time constant (5) | s | 2146 |

Mechanical Specification

| | | GD350XS_P |
|--------------------------------------|------|------------|
| Stator length | mm | 376 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 4,225 |
| Slider length (min/max)(8) | mm | 487 / 2287 |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch N to N) | mm | 60 |

Encoder Specification

| | | GDM350XS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD350XS**

 Revision **2** 14/07/2017
Motor Specification

| | | GD350XS |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 837 |
| Continuous stall force (passive cooling) | N | 187,2 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 7,60 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 290,69 |
| Continuous stall force (with heatsink plate) | N | -- |
| Continuous stall force (fan cooling) | N | 230,5 |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 355,7 |

Electrical Specification

| | | GD350XS |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 16,90 |
| Continuous stall current (passive cooling) | Arms | 2,68 |
| Continuous stall current (with heatsink plate) | Arms | -- |
| Continuous stall current (fan cooling) | Arms | 3,3 |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 5,09 |
| Force constant | N/Arms | 69,85 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 57,04 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 40,33 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 7,1 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 10,2 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 8,41 |
| Electrical time constant | ms | 1,185 |
| Motor constant | N/√W | 17,885 |

Thermal Specification IC40

| | | GD350XS |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 109,56 |
| Thermal resistance (case-ambient) | °C/W | 0,570 |
| Thermal resistance (winding-case) | °C/W | 0,480 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 1,050 |
| Thermal time constant ⁽⁵⁾ | s | 2239 |

Mechanical Specification

| | | GD350XS |
|---------------------------------------|------|----------------|
| Stator length | mm | 376 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 5,3 |
| Slider length (min/max) | mm | 487 / 2287 |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD350XS |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value

Linear motor **GD350ES**

 Revision **2** **02/08/2016**
Motor Specification

| | | GD350ES |
|--|------------------|----------------|
| Peak Force ⁽⁶⁾ | N | 1161 |
| Continuous stall force (passive cooling) | N | 259,7 |
| Max. velocity ⁽¹⁾⁽³⁾ | m/s | 8,28 |
| Max. acceleration ⁽²⁾⁽³⁾ | m/s ² | 310,5 |
| Continuous stall force (with heatsink plate) | N | -- |
| Continuous stall force (fan cooling) | N | -- |
| Continuous stall force (liquid cooling) ⁽⁷⁾ | N | 493,4 |

Electrical Specification

| | | GD350ES |
|--|------------|----------------|
| Nominal DC-Link Voltage | Vdc | 560 |
| Maximum DC-Link Voltage | Vdc | 610 |
| Peak current ⁽⁶⁾ | Apk | 23,40 |
| Continuous stall current (passive cooling) | Arms | 3,70 |
| Continuous stall current (with heatsink plate) | Arms | -- |
| Continuous stall current (fan cooling) | Arms | -- |
| Continuous stall current (liquid cooling) ⁽⁷⁾ | Arms | 7,03 |
| Force constant | N/Arms | 70,18 |
| Back EMF constant (ph-ph) ⁽⁴⁾ | Vpk/(m/s) | 57,30 |
| Back EMF constant (ph-ph) | Vrms/(m/s) | 40,52 |
| Resistance @ 25°C (ph-ph) ⁽⁴⁾ | Ohm | 5,03 |
| Resistance @ 135°C (ph-ph) ⁽⁴⁾ | Ohm | 7,2 |
| Inductance (ph-ph) ⁽⁴⁾ | mH | 5,68 |
| Electrical time constant | ms | 1,129 |
| Motor constant | N/√W | 21,350 |

Thermal Specification IC40

| | | GD350ES |
|---|------|----------------|
| Max. winding temperature | °C | 135 |
| Max. Duration with peak current | s | 1 |
| Max. Power dissipation ⁽⁵⁾ | W | 147,94 |
| Thermal resistance (case-ambient) | °C/W | 0,420 |
| Thermal resistance (winding-case) | °C/W | 0,310 |
| Thermal resistance (winding-ambient) ⁽⁵⁾ | °C/W | 0,730 |
| Thermal time constant ⁽⁵⁾ | s | 2373 |

Mechanical Specification

| | | GD350ES |
|---------------------------------------|------|----------------|
| Stator length | mm | 502 |
| Stator flange dimension | mm | 88x88 |
| Stator mass | kg | 7 |
| Slider length (min/max) | mm | 536 / 2302 |
| Slider diameter | mm | 35 |
| Slider mass | kg/m | 7,10 |
| Magnetic Period (Polar pitch, N to N) | mm | 60 |

Encoder Specification

| | | GD350ES |
|----------------------|--|-------------------------------|
| Encoder Type | | SIN/COS 1 Vpp |
| Encoder power supply | | 5 V |
| Resolution | | 1 sine period per polar pitch |

(1) Based on triangular move over 360mm stroke without payload and without taking in account voltage limits - (2) Based on a 30 mm stroke, without payload - (3) The specifications and data may be subject to change depending of the load - (4) Manufacturing data ±10% - (5) In compliance with IEC 60034-1 - (6) Service type S3, duty cycle 5% (7) Estimated Value