

Linear motor	NL080Q
Revision	0
	11/11/2017

Motor Specification

		NL080Q
Peak Force ⁽⁶⁾	N	24
Continuous stall force (passive cooling)	N	5,4
Max. velocity ⁽¹⁾⁽³⁾	m/s	6,00
Max. acceleration ⁽²⁾⁽³⁾	m/s ²	438,64
Continuous stall force (with heatsink plate)	N	--
Continuous stall force (fan cooling)	N	--
Continuous stall force (liquid cooling) ⁽⁷⁾	N	--

Electrical Specification

		NL080Q
Nominal DC-Link Voltage	Vdc	48
Maximum DC-Link Voltage	Vdc	80
Peak current ⁽⁶⁾	Arms	6,06
Continuous stall current (passive cooling)	Arms	1,36
Continuous stall current (with heatsink plate)	Arms	--
Continuous stall current (fan cooling)	Arms	--
Continuous stall current (liquid cooling) ⁽⁷⁾	Arms	--
Force constant	N/Arms	4,00
Back EMF constant (ph-ph) ⁽⁴⁾	Vpk/(m/s)	3,25
Back EMF constant (ph-ph)	Vrms/(m/s)	2,3
Resistance @ 25°C (ph-ph) ⁽⁴⁾	Ohm	9,72
Resistance @ 135°C (ph-ph) ⁽⁴⁾	Ohm	13,9
Inductance (ph-ph) ⁽⁴⁾	mH	1,2
Electrical time constant	ms	0,123
Motor constant	N/√W	1,387

Thermal Specification IC40

		NL080Q
Max. winding temperature	°C	130
Max. Duration with peak current	s	1
Max. Power dissipation ⁽⁵⁾	W	15,30
Thermal resistance (case-ambient)	°C/W	2,420
Thermal resistance (winding-case)	°C/W	4,014
Thermal resistance (winding-ambient) ⁽⁵⁾	°C/W	6,400
Thermal time constant ⁽⁵⁾	s	537

Mechanical Specification

		NL080X
Stator length	mm	118
Stator flange dimension	mm	20x40
Stator mass	kg	0,116
Slider length (min/max)	mm	--
Slider diameter	mm	8
Slider mass	g/m	0,35
Magnetic Period (Polar pitch, N to N)	mm	30

Encoder Specification

		NL080X
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