

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer : QUANTUM CONTROLS

Product line : W22 - IE3 Premium Efficiency Multivoltage Product code : 15833946

Frame	: 112M	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: B3T
Duty cycle	: S1	Rotation ¹	: Both
Ambient temperature	: -20 °C to +40 °C	Starting method	: Direct On Line
Altitude	: 1000 m.a.s.l	Approx. weight ³	: 44.0 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0180 kgm ²
Design	: N		

Output	4 kW	4 kW	4 kW
Poles	4	4	4
Frequency	50 Hz	50 Hz	50 Hz
Rated voltage	380/660 V	400/690 V	415 V
Rated current	8.47/4.88 A	8.34/4.83 A	8.35 A
L. R. Amperes	55.1/31.7 A	58.4/33.8 A	62.6 A
LRC	6.5	7.0	7.5
No load current	4.30/2.48 A	4.70/2.72 A	5.10 A
Rated speed	1445 rpm	1450 rpm	1455 rpm
Slip	3.67 %	3.33 %	3.00 %
Rated torque	26.4 Nm	26.4 Nm	26.3 Nm
Locked rotor torque	220 %	260 %	280 %
Pull up torque	185 %	220 %	235 %
Breakdown torque	270 %	310 %	340 %
Service factor	1.00	1.00	1.00
Noise level ²	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Locked rotor time (hot)	15 s	15 s	15 s
Locked rotor time (cold)	27 s	27 s	27 s
Efficiency (%)	50%	88.9	88.0
	75%	89.0	88.9
	100%	88.6	88.9
Power Factor	50%	0.64	0.56
	75%	0.75	0.69
	100%	0.81	0.75

Bearing type	Drive end	Non drive end	Foundation loads
	6207-ZZ	6206-ZZ	
Lubrication interval	-	-	Max. compression : 2096 N
Lubricant amount	-	-	Load type :-
Lubricant type	MOBIL POLYREX EM		Load torque :-
			Load inertia (J=GD ² /4) :-

Notes
See notes on page 2.

This revision replaces and cancel the previous one, which must be eliminated.

- (1) Looking the motor from the shaft end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight, subject to be changed after manufacturing process.
- (4) At 100% of full load.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary		Rev.	Checked	Date
Performed by	dang			1230927862	
Checked by	AUTOMATICO			Page	Rev.
Date	11/11/2021			1 / 6	0

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Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155°C

Space heater information
Voltage: 110-127/200-240 V
Output: 18-25/18-26 W

Notes

Standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

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Rev.	Changes Summary	Rev.	Checked	Date
Performed by	dang	1230927862		
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Date	11/11/2021	2 / 6	0	

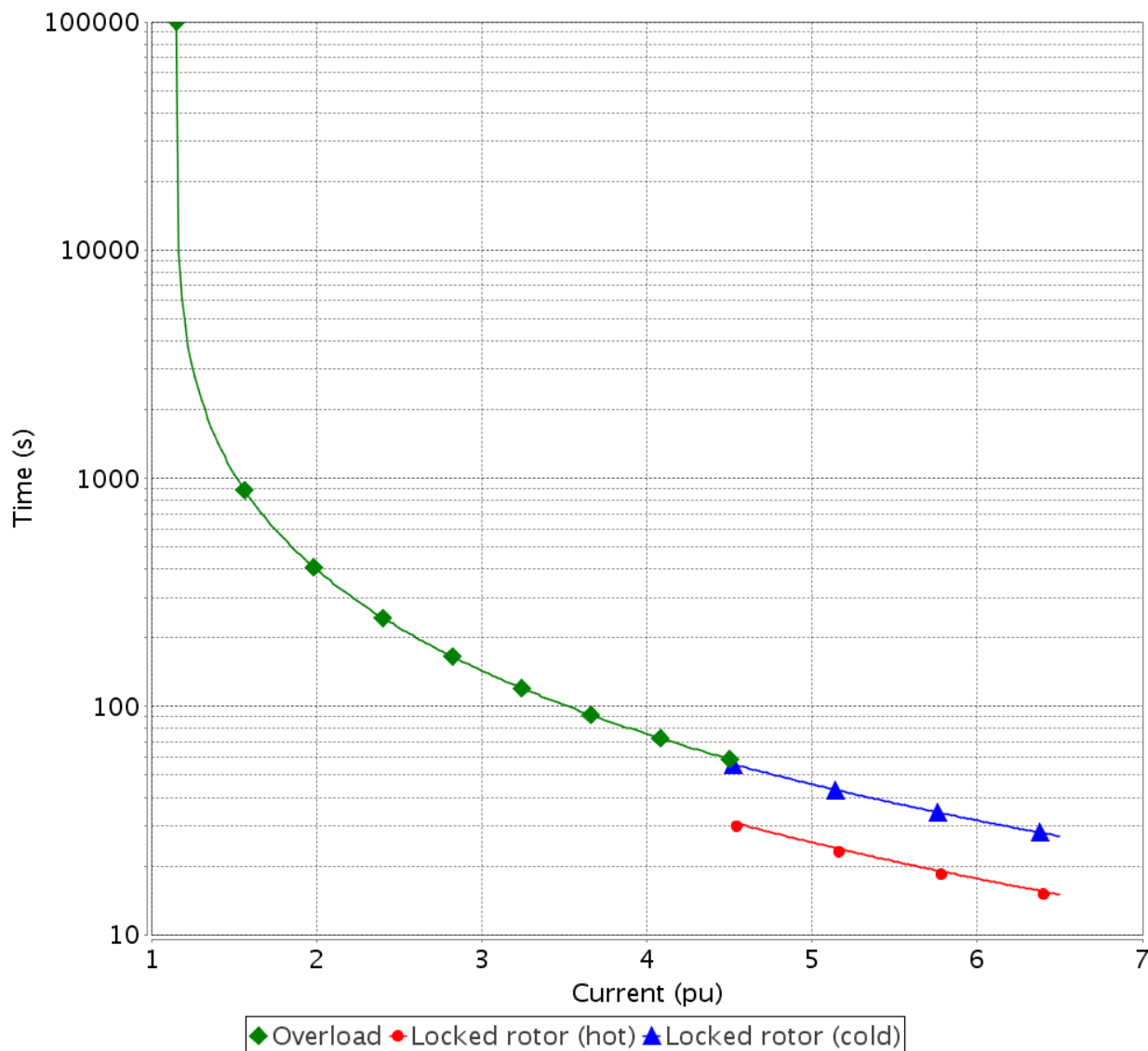
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Performance : 4 kW 380/660 V 50 Hz 4P 112M

Rated current	: 8.47/4.88 A	Moment of inertia (J)	: 0.0180 kgm ²
LRC	: 6.5	Duty cycle	: S1
Rated torque	: 26.4 Nm	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1445 rpm	Design	: N
Heating constant	: 19.2 min		
Cooling constant	: 57.6 min		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by	dang			
Checked by			Page	Rev.
Date	11/11/2021		3 / 6	0

LOAD PERFORMANCE CURVE

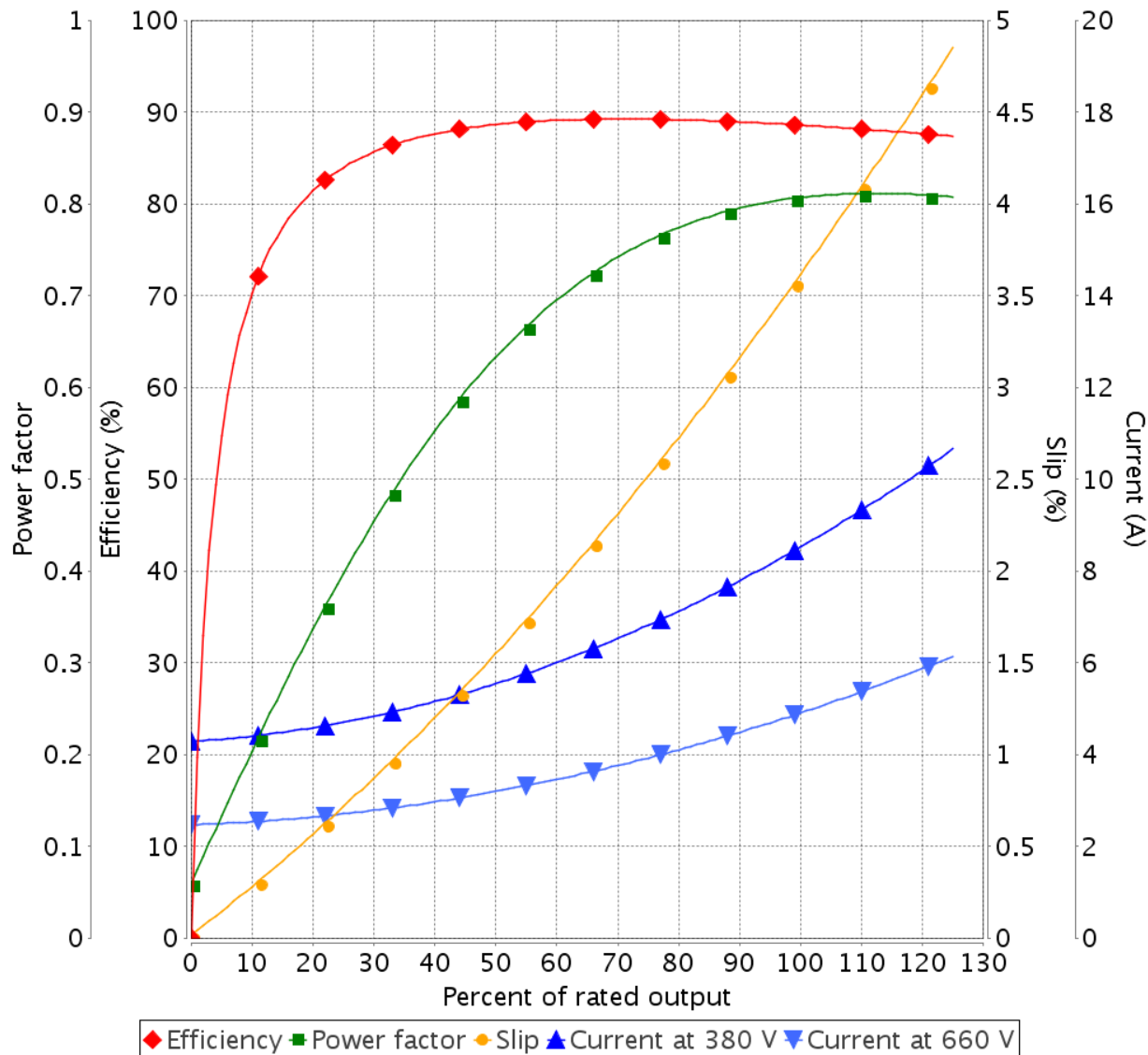
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Product code : 15833946



Performance : 4 kW 380/660 V 50 Hz 4P 112M

Rated current : 8.47/4.88 A

Moment of inertia (J) : 0.0180 kgm²

LRC : 6.5

Duty cycle : S1

Rated torque : 26.4 Nm

Insulation class : F

Locked rotor torque : 220 %

Service factor : 1.00

Breakdown torque : 270 %

Temperature rise : 80 K

Rated speed : 1445 rpm

Design : N

Rev.	Changes Summary		Rev.	Checked	Date
Performed by	dang				
Checked by				Page	Rev.
Date	11/11/2021			4 / 6	0

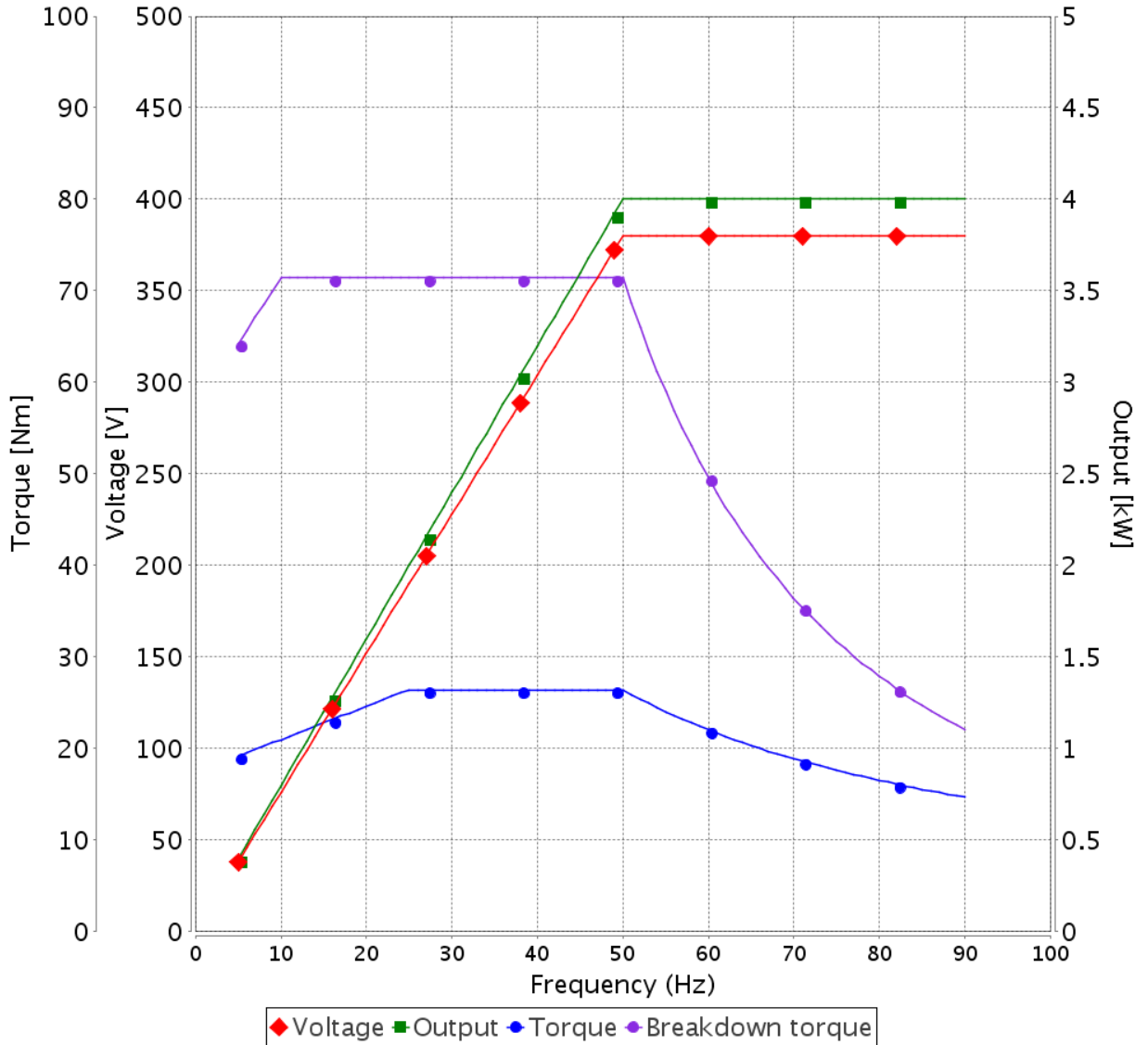
VFD OPERATION CURVE

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Rated current : 8.47/4.88 A
 LRC : 6.5
 Rated torque : 26.4 Nm
 Locked rotor torque : 220 %
 Breakdown torque : 270 %
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.0180 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Voltage Peak Phase-Phase = 1600.0
 dV/dt = 5200.0
 Rise time = 0.1

Rev.	Changes Summary		Rev.	Checked	Date
Performed by	dang				
Checked by				Page	Rev.
Date	11/11/2021			5 / 6	0

TORQUE AND CURRENT VS SPEED CURVE

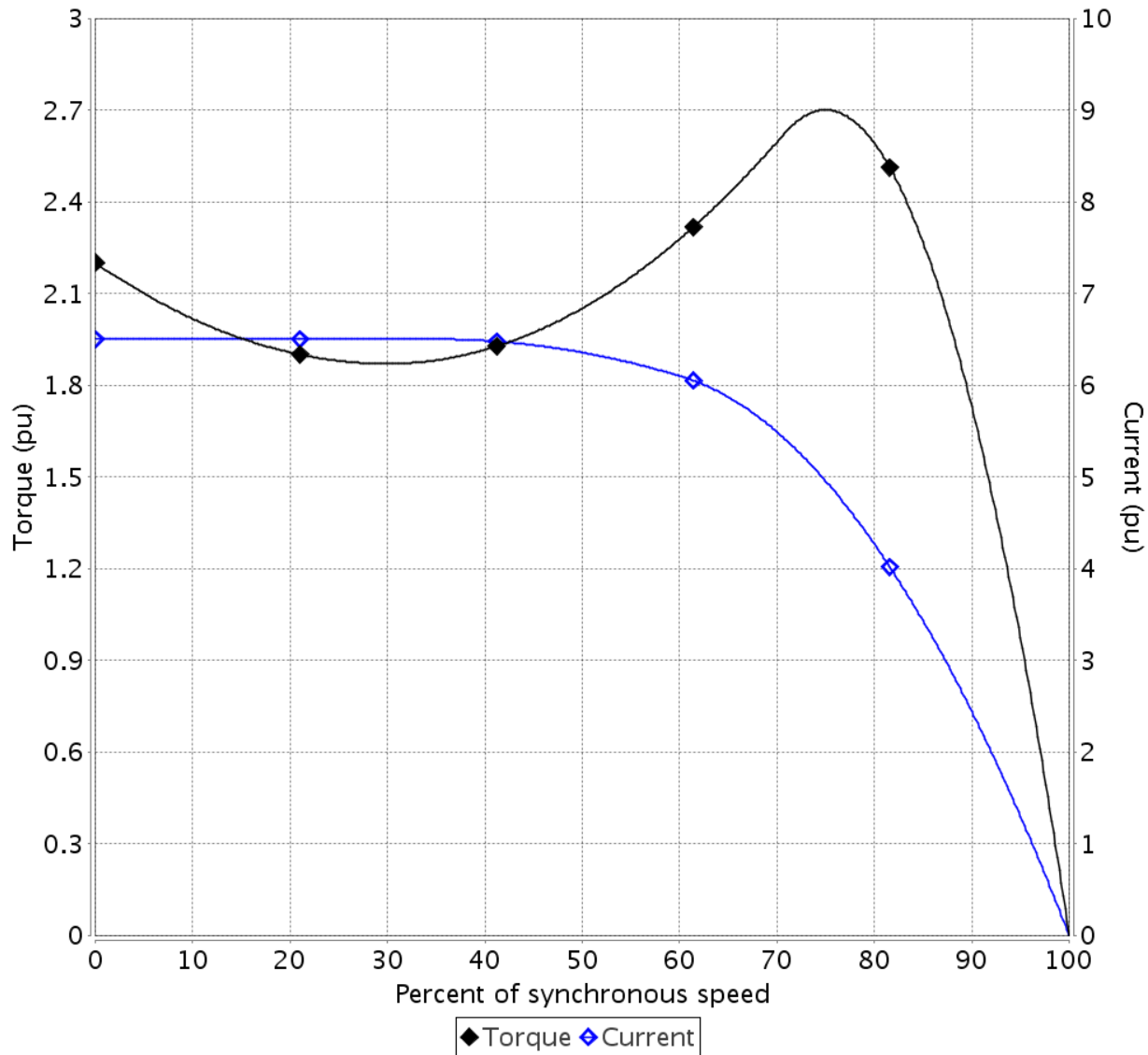
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Rated current : 8.47/4.88 A

LRC : 6.5

Rated torque : 26.4 Nm

Locked rotor torque : 220 %

Breakdown torque : 270 %

Rated speed : 1445 rpm

Moment of inertia (J) : 0.0180 kgm²

Duty cycle : S1

Insulation class : F

Service factor : 1.00

Temperature rise : 80 K

Design : N

Locked rotor time 100% : 15 s (hot) 27 s (cold)

Load inertia (J=GD²/4) : 0.0180 kgm²

Rev.	Changes Summary		Rev.	Checked	Date
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Checked by	AUTOMATICO		Page	Rev.	
Date	11/11/2021		6 / 6	0	