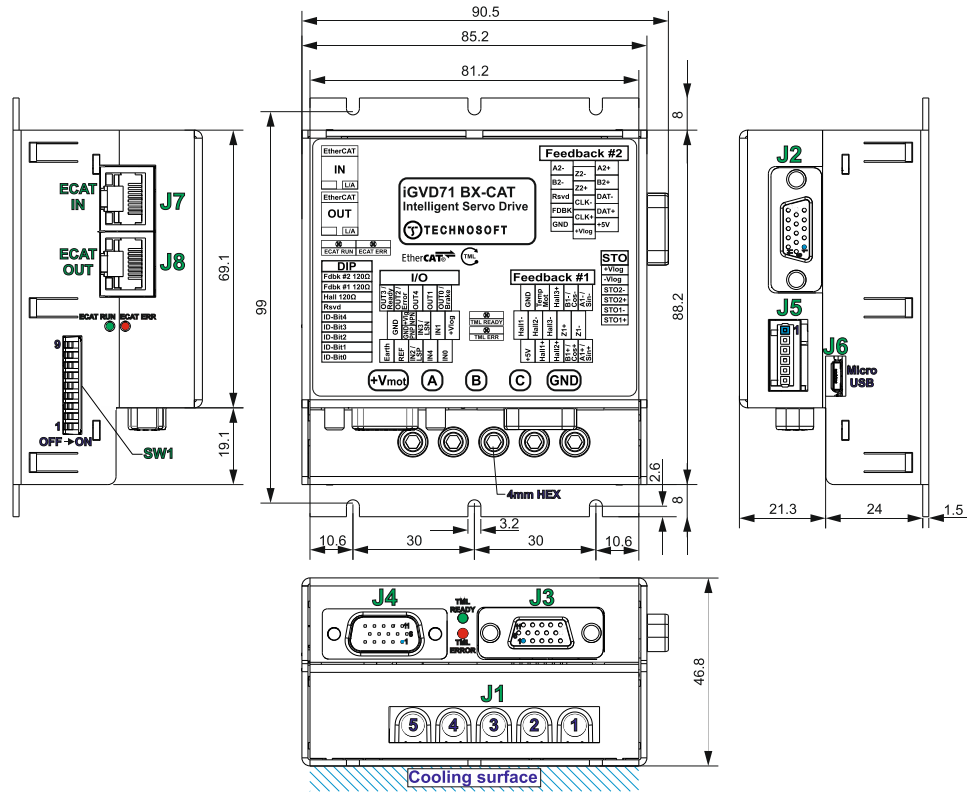


All dimensions are in mm; Drawing not to scale.

Motor – sensor configurations			
Sensor \ Motor	PMSM	BLDC	DC BRUSH
Incr. Encoder	✓		✓
Incr. Encoder + Dig. Hall	✓	✓	
Digital Hall control only	✓		
Analog Sin/Cos encoder	✓	✓	✓
SSI / BiSS-C / EnDAT / Tamagawa / Panasonic / Nikon / Sanyo Denki	✓	✓	✓
Tacho			✓

Features

- Motion controller and drive in a single compact unit based on MotionChip™ technology
- Universal solution for control of rotary and linear brushless and brushed motors
- Advanced motion control capabilities (PVT, S-curve, electronic cam)
- Motor supply: 11-80V; Logic supply[1]: 9-36V
- Output current[2]:
  - Nominal: 71 A_{RMS} / 100A amplitude
  - Peak: 92 A_{RMS} / 130A amplitude
- [3]STO: 2 safe torque-off inputs, 18-36V SELV/PELV supply, safety integrity level (SIL3) acc. to EN61800-5-1; -2/ EN61508-3; -4/ EN ISO 13849-1.
- 5x opto-isolated digital inputs, 12-36V, PNP/NPN compatible: 2 for limit switches, 3 general-purpose
- 4x digital outputs, 0.2A PNP/ 0.3A NPN software selectable: Ready, Error, 2 general-purpose
- 1x PNP/NPN 2A Solenoid driver for motor brake: Out0/Brake
- 2x analogue inputs: 12 bit, 0-5V: Reference and Feedback (for Tacho) or general-purpose
- Feedback Devices (dual-loop support)
- 1st feedback devices supported:
  - Incremental encoder interface (single-ended or differential)
  - Analogue sin/cos encoder interface (differential 1Vpp)
- 2nd feedback devices supported:
  - Incremental encoder interface (single-ended or differential)
  - BISS / SSI / EnDAT / TAMAGAWA / Panasonic/ Nikon/ Sanyo Denki encoder interface
- Digital Hall sensor interface (single-ended / open collector or differential, selectable by DIP switch)
- Pulse & direction reference (single-ended or differential) capability
- [4]USB & dual 100Mbps RJ45 EtherCAT® interfaces
- Commissioning (set-up) possible through USB, FoE (file-over-EtherCAT®), EoE (Ethernet-over-EtherCAT®)
- 32 h/w addresses selectable by DIP switch
- 16k x 16 SRAM memory for data acquisition
- 16k x 24 E^2ROM to store setup data, TML motion programs, cam tables and other user data
- Operating ambient temperature: 0-40°C (over 40°C with derating)

[1] Logic supply must be SELV/ PELV type (Safety Extra Low Voltage / Protective Extra Low Voltage)
[2] Nominal output current possible only with external radiator (not included) that can maintain lower plate temperature below 75ºC; The radiator is mounted under the drive using thermal paste or direct metal contact. Its size is application dependent
[3] The STO circuit must be supplied with minimum 18V to enable PWM output
[4] Micro USB cable not provided

Mating Connectors				
Ref	Component			Function
J1	High AMP wire. 4mm HEX socket. AWG 6-16 wire gauge. Strip: - min 8 mm for cables with isolation diameter less than .5 mm; - min 12 mm/ max 15 mm for cables with isolation diameter bigger than 6.5 mm.			Motor Phases Motor Supply
	Avoid generating metal debris/ filings into drive from the wire leads! In case of multi-stranded wires, a proper crimp ferrule* must be used as wire terminal.			⚠
J2, J3	generic 15-pin High Density D-Sub male			Feedback #1 Halls Feedback #2
J4	generic 15-pin High Density D-Sub female			I/O's
J5	Female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 6-pole	Wago	733-106	STO Logic Supply
J6	Standard Micro USB cable			Communication
J7, J8	Standard 8P8C modular jack (RJ-45) male			EtherCAT

* For more recommendations about wires and ferrules, check the User Manual of the drive.

J1

Pin	Name	Description
1	GND	Negative return (ground) of the power supply
2	C	**Phase C** for 3-ph motors
3	B	**Phase B** for 3-ph motors, Motor- for DC brush motors
4	A	**Phase A** for 3-ph motors, Motor+ for DC brush motors
5	$+V_{MOT}$	Positive terminal of the motor supply: 11 to $80V_{DC}$.

J2

Pin	Name	Description
1	$+5V_{OUT}$	5V output supply
2	Data+/ SL+	Data+ for SSI & EnDAT, or Slave+ for BiSS C; SW1 pin 9 can connect an 120Ω resistor between pins 2 and 3
3	Data-/ SL-	Data- for SSI & EnDAT,or Slave- for BiSS C; SW1 pin 9 can connect an 120Ω resistor between pins 2 and 3
4	B2+/ Dir+	Incr. encoder2 B+ diff. input, or Dir+; SW1 pin 9 can connect an 120Ω resistor between pins 4 and 14
5	A2+/ Pulse+	Incr. encoder2 A+ diff. input, or Pulse+; SW1 pin 9 can connect an 120Ω resistor between pins 4 and 14
6	$+V_{LOG}$	Positive terminal of the logic supply: 9 to $36V_{DC}$. Internally connected to other $+V_{LOG}$ pins.
7	CLK+/ MA+	Clock+ for SSI & EnDAT or Master+ for BiSS C; SW1 pin 9 can connect an 120Ω resistor between pins 7 and 8
8	CLK- /MA-	Clock- for SSI & EnDAT or Master- for BiSS C; SW1 pin 9 can connect an 120Ω resistor between pins 7 and 8
9	Z2+	Incr. encoder2 Z single-ended input, Z2+ diff. input; SW1 pin 9 can connect an 120Ω resistor between pins 9 and 10
10	Z2-	Incr. encoder2 Z- diff. input; SW1 pin 9 can connect an 120Ω resistor between pins 9 and 10
11	GND	Return ground for sensors supply
12	FDBK	Analogue input, 12-bit, 0-5V
13	Rsvd.	Reserved. Do not connect
14	B2-/ Dir-	Incr. encoder2 B- diff. input, or Dir-; SW1 pin 9 can connect an 120Ω resistor between pins 4 and 14
15	A2-/ Pulse-	Incr. encoder2 A- diff. input, or Pulse-; SW1 pin 9 can connect an 120Ω resistor between pins 5 and 15

J5

Pin	Name	Description	
1	$+V_{LOG}$	Positive terminal of the logic supply input: 9 to $36V_{DC}$ from SELV/ PELV type power supply.	
2	$-V_{LOG}$	Negative terminal of the logic supply input: 9 to $36V_{DC}$ from SELV/ PELV type power supply.	
3	STO2-	Safe Torque Off input 2, negative return (opto-isolated, 18÷36V)	Apply between both STO1+, STO2+ and STO1-, STO2- minimum 18V DC from SELV/ PELV power supply for motor PWM output operation
4	STO2+	Safe Torque Off input 2, positive input (opto-isolated, 18÷36V)	
5	STO1-	Safe Torque Off input 1, negative return (opto-isolated, 18÷36V)	
6	STO1+	Safe Torque Off input 1, positive input (opto-isolated, 18÷36V)	

SW1

Pin	Name	Position	Description
1	ID-Bit0	up (ON)	Hardware AxisID selection switches All switches ON – AxisID= 31 All switches OFF – AxisID = 255 When Axis ID is 255, the EtherCAT register called “configured station alias” will be 0.
2	ID-Bit1	up (ON)	
3	ID-Bit2	up (ON)	
4	ID-Bit3	up (ON)	
5	ID-Bit4	up (ON)	
6	Rsvd.	-	Reserved
7	Hall 120Ω	up (ON)	Internally connects 120Ω termination resistors between Hall signals
8	Fdbk #1 120Ω	up (ON)	Internally connects 120Ω termination resistors between Feedback #1 signals
9	Fdbk #2 120Ω	up (ON)	Internally connects 120Ω termination resistors between Feedback #2 signals

LEDs

TML Error	RED	Turned on when the drive detects an error condition
TML Ready	GREEN	Lit after power-on when the drive initialization ends. Turned off when an error occurs.
ECAT Error	RED	EtherCAT® ERROR and RUN indicators shows the state of the EtherCAT® Status Machine
ECAT Run	GREEN	

J3

Pin	Name	Description
1	$+5V_{OUT}$	5V output supply
2	Hall 1+	Digital input Hall 1 sensor input or Hall1+ diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 2 and 6
3	Hall 2+	Digital input Hall 2 sensor input or Hall2+ diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 3 and 7
4	B1+/ Cos+	Incr. encoder1 B single-ended input, B1+ diff. input or analogue encoder Cos+ diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 4 and 14
5	A1+/Sin+	Incr. encoder1 A single-ended input, A+ diff. input, or analogue encoder Sin+ diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 5 and 15
6	Hall 1-	Digital input Hall 1- diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 2 and 6
7	Hall 2-	Digital input Hall 2- diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 3 and 7
8	Hall 3-	Digital input Hall 3- diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 13 and 8
9	Z1+	Incr. encoder1 Z single-ended input or Z+ diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 9 and 10
10	Z1-	Incr. encoder1 Z- diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 9 and 10
11	GND	Return ground for sensors supply
12	Temp Mot	Analogue input, 12-bit, 0-3.3V. Used to read an analog temperature value
13	Hall 3+	Digital input Hall 3 sensor input or Hall3+ diff. sensor input; SW1 pin 7 can connect an 120Ω resistor between pins 13 and 8
14	B1-/Cos-	Incr. encoder1 B- diff. input, or analogue encoder Cos- diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 4 and 14
15	A1- /Sin-	Incr. encoder1 A- diff. input, or analogue encoder Sin- diff. input; SW1 pin 8 can connect an 120Ω resistor between pins 5 and 15

J4

Pin	Name	Description
1	IN0	12-36V general-purpose digital PNP/NPN opto-isolated input.
2	IN4	12-36V general-purpose digital PNP/NPN opto-isolated input.
3	IN2/LSP	12-36V digital PNP/NPN opto-isolated input. Positive limit switch function
4	REF	Analogue input, 12-bit, 0-5V
5	Earth	Earth connection; Internally connected to the metallic side of J2, J3 and J4
6	$+V_{LOG}$	Positive terminal of the logic supply: 9 to $36V_{DC}$. Internally connected to other $+V_{LOG}$ pins.
7	IN1	12-36V general-purpose digital PNP/NPN opto-isolated input.
8	IN3/LSN	12-36V digital PNP/NPN opto-isolated input. Negative limit switch function
9	GND +Vlog PNP NPN	PNP/NPN Inputs type selector. Connect to GND to use inputs as PNP; Connect to +Vlog to use inputs as NPN
10	GND	Return ground for I/O pins
11	OUT0/Brake	Digital output used for an electro-mechanical brake,12-36V, 2A PNP/ 2A NPN software selectable
12	OUT1	12-36V general-purpose digital output, 0.2A PNP/ 0.3A NPN, software selectable
13	OUT4	12-36V general-purpose digital output, 0.2A PNP/ 0.3A NPN, software selectable
14	OUT2/Error	12-36V drive Error digital output, 0.2A PNP/ 0.3A NPN, software selectable
15	OUT3/Ready	12-36V drive Ready digital output, 0.2A PNP/ 0.3A NPN, software selectable

J6	USB	Standard micro-USB port. Is identified in Windows as RS-232 COM port

Electrical characteristics

All parameters measured under the following conditions (unless otherwise specified):

- V_{LOG} = 24 VDC; V_{MOT} = 80VDC; F_{PWM} = 20HZ
- Supplies start-up / shutdown sequence: -any-
- Load current (sinusoidal amplitude) = 100A

Operating Conditions		Min.	Typ.	Max.	Units
Ambient temperature		0		40[1, 3]	ºC
Ambient humidity	Non-condensing	0		90	%Rh
Altitude / pressure[2]	Altitude (vs. sea level)	-0.1	0 ÷ 2.5	[2]	Km
	Ambient Pressure	0 [2]	0.75 ÷ 1	10.0	atm
Storage Conditions		**Min.**	**Typ.**	**Max.**	**Units**
Ambient temperature		-40		105	ºC
Ambient humidity	Non-condensing	0		100	%Rh
Ambient Pressure		0		10.0	atm
ESD capability (Human body model)	Not powered; applies to any accessible part			±0.5	kV
	Original packaging			±15	kV
Mechanical Mounting		**Min.**	**Typ.**	**Max.**	**Units**
External heatsink (cooling plate)	Current capability depends on heat transfer, heatsink dimension, cooling technique (natural or forced). Keep lower plate temperature at **maximum 75ºC**				

Environmental Characteristics		Min.	Typ.	Max.	Units
Size (Length x Width x Height)	Without mating connectors		104.2 x 90.5 x 46.8		mm
			~4.1 x 3.56 x 1.84		inch
Weight	Without mating connectors		300		g
Power dissipation	Idle (no load)		3		W
	Operating		80÷100		
Efficiency			98		%
Cleaning agents	Dry cleaning is recommended		Only Water- or Alcohol- based		
Protection degree	According to IEC60529, UL508		IP20		-

Logic Supply Input (+V_{LOG})		Min.	Typ.	Max.	Units
Supply voltage	Nominal values	12	24	36	V_{DC}
	Absolute maximum values, drive operating but outside guaranteed parameters	8	24	40	V_{DC}
	Absolute maximum values, surge (duration ≤ 10ms) †	-1		+45	V
Supply current	+V_{LOG} = 12V		170		mA
	+V_{LOG} = 24V		110		
	+V_{LOG} = 36V		90		
Utilization Category	Acc. to 60947-4-1 (I_{PEAK}<=1.05*I_{NOM})	DC-1			

Motor Supply Input (+V_{MOT})		Min.	Typ.	Max.	Units
Supply voltage	Nominal values	12	80	90	V_{DC}
	Absolute maximum values, drive operating but outside guaranteed parameters	11		94	V_{DC}
	Absolute maximum values, surge (duration ≤ 10ms) †	-1		95	V
Supply current	Idle		1	5	mA
	Operating	-130	±100	+130	A
	Absolute maximum value, short-circuit condition (Duration ≤ 10ms) †			140	A
Utilization Category	Acc. to 60947-4-1 (I_{PEAK}<=4*I_{NOM})	DC-3			

Digital Inputs – opto-isolated- (IN0, IN1, IN2/LSP, IN3/LSN, IN4)		Min.	Typ.	Max.	Units
Mode compliance	PNP (J4, pin9 connected to GND)	Connect digital input pin to +Vlog to change its state			
	NPN (J4, pin9 connected to +Vlog)	Connect digital input pin to GND to change its state			
Default state	Input floating (wiring disconnected)	Logic LOW			
Input voltage	Logic LOW	0		5	V
	Logic HIGH	8		36	
	Absolute maximum	-5		50	
Input current	Logic LOW	0		14	mA
	Logic HIGH	0.6	4	6.6	
	Absolute maximum	0		7.5	
Input frequency			2		kHz
Minimum pulse			500		µs
ESD protection	Human body model	±15			kV

Motor Outputs (A/A+, B/A-, C/B+, BR/B-)			Min.	Typ.	Max.	Units
Nominal current *As long as drive lower plate does not exceed 75ºC	PMSM motors sinusoidal amplitude				100	A
	PMSM motors sinusoidal RMS				71	A_{RMS}
	DC/BLDC motors continuous				86.6	A
Peak current	*As long as drive back plate does not exceed 75ºC		-130		+130	A
Short-circuit protection threshold					±140	A
Short-circuit protection delay			5	10		µs
On-state voltage drop	Nominal output current; including typical mating connector contact resistance			±0.3	±0.5	V
Off-state leakage current				±0.5	±1	mA
Motor inductance (phase-to-phase)	Recommended value, for current ripple max. ±5% of full range; +V_{MOT} = 60 V	F_{PWM}				µH
		20 kHz	300			
		40 kHz	150			
		60 kHz	100			
		80 kHz	75			
	Minimum value, limited by short-circuit protection; +V_{MOT} = 60 V	20 kHz	150			µH
		40 kHz	75			
		60 kHz	50			
		80 kHz	38			
Motor electrical time-constant (L/R)	Recommended value for ±5% current measurement error	20 kHz	250			µs
		40 kHz	125			
		60 kHz	100			
		80 kHz	63			
Current measurement (FS = Full Scale accuracy)				±4	±8	%FS

Digital Outputs (OUT0/Brake, OUT1, OUT2, OUT3, OUT4)		Min.	Typ.	Max.	Units
Mode compliance		PNP 24V			
Default state	Not supplied (+V_{LOG} floating or to GND)	High-Z (floating)			
	Normal operation	Logic "High"			
Output voltage	Logic "HIGH"; output current = 0.2A		V_{LOG}-0.2	V_{LOG}-0.8	V
	Logic "LOW"; output current = 0, no load	open-collector			
	Logic "HIGH", external load to GND		0		
	Absolute maximum, continuous	-0.3		V_{LOG}+0.3	
	Absolute maximum, surge (duration ≤ 1s) †	-0.5		V_{LOG}+0.5	
Output current	Logic "HIGH", source current, continuous	OUT1,2,3,4		0.2	A
		OUT0/Brake		2	
	Logic "HIGH", source current, pulse ≤ 5 s	OUT1,2,3,4		0.4	A
		OUT0/Brake		3	
	Logic "LOW", means High-Z				mA
Minimum pulse width		2			µs
ESD protection - Human body model		±15			kV
Mode compliance		NPN 24V			
Default state	Not supplied (+V_{LOG} floating or to GND)	High-Z (floating)			
	Normal operation	High-Z			
Output voltage	Logic "LOW"; output current = 0.3A		0.2	0.8	V
	Logic "HIGH"; output current = 0, no load	open-collector			
	Logic "HIGH", external load to +V_{LOG}		V_{LOG}		
	Absolute maximum, continuous	-0.3		V_{LOG}+0.3	
	Absolute maximum, surge (duration ≤ 1s) †	-0.5		V_{LOG}+0.5	
Output current	Logic "LOW", sink current, cont.	OUT1,2,3,4		0.3	A
		OUT0/Brake		2	
	Logic "LOW", sink current, pulse ≤5s	OUT1,2,3,4		0.5	A
		OUT0/Brake		3	
	Logic "HIGH", means High-Z				mA
Minimum pulse width		2			µs
ESD protection - Human body model		±15			kV

Brake output (OUT0/Brake)			Min.	Typ.	Max.	Units
Out0/Brake: solenoid driver, 2A.						
Default state	Not supplied (+V_{LOG} floating or to GND)		High-Z (floating)			
	Immediately after power-up	Brake-	High-Z (floating)			
	Normal operation	Brake-	High-Z (floating)			
Output voltage	Logic "LOW" (Brake-)				0.2	V
	Logic "HIGH"; load present			+V_{LOG}		
	Logic "HIGH", no load present			+5		
	Absolute maximum, continuous		-0.5		+V_{LOG} + 0.3	
Output current	Logic "LOW", sink current, continuous, Brake-				3	A
	Logic "HIGH", leakage current; external load to +V_{LOG}; V_{OUT} = V_{LOG} max = 36V				0.2	mA

[1] Operating temperature at higher temperatures is possible with reduced current and power ratings

[2] iGVD71 can be operated in vacuum (no altitude restriction), but at altitudes over 2,500m, current and power rating are reduced due to thermal dissipation efficiency.

Digital Hall Inputs (Hall1+, Hall1-, Hall2+, Hall2-, Hall3+, Hall3-)[1]			Min.	Typ.	Max.	Units
Mode compliance				TTL / CMOS / Open-collector		
Default state	Input floating (Wiring disconnected)			Logic HIGH		
Input voltage	Logic "LOW"			0	0.8	V
	Logic "HIGH"		2	5		
	Floating voltage (Not connected)	H1+, H2+, H3+		4.4		
		H1-, H2-, H3-		1.8		
	Absolute maximum, surge (duration ≤ 1s) †		-10		+15	
Input current	Logic "LOW"; Pull to GND				1.2	mA
	Logic "HIGH"; Internal 4.7KΩ pull-up to +5		0	0	0	
Minimum pulse width			2			µs

Differential mode compliance	RS422 compliance		TIA/EIA-422-A			
Input voltage	Hysteresis		±0.06	±0.1	±0.2	V
	Differential mode		-14		+14	
	Common-mode range (A+ to GND, etc.)		-11		+14	
Input impedance, differential				120		Ω
Input frequency	Differential mode		0		10	MHz
Minimum pulse width	Differential mode		50			ns
ESD protection	Human body model		±5			kV

Encoder #1 and #2 Inputs (A1+, A1-, B1+, B1-, Z1+, Z1-, A2+, A2-, B2+, B2-, Z2+, Z2-)[2]		Min.	Typ.	Max.	Units
Differential mode compliance	For full RS422 compliance, see [1]		TIA/EIA-422-A		
Input voltage	Hysteresis	±0.06	±0.1	±0.2	V
	Differential mode	-14		+14	
	Common-mode range (A+ to GND, etc.)	-11		+14	
Input impedance, differential	A1+/A1-, B1+/B1-, Z1+/Z1-, A2+/A2-, B2+/B2-, Z2+/Z2-		120		Ω
Input frequency	Differential mode	0		10	MHz
Minimum pulse width	Differential mode	50			ns
Analog 0…5V Inputs (REF, FDBK)		**Min.**	**Typ.**	**Max.**	**Units**
Input voltage	Operational range	0		5	V
	Absolute maximum values, continuous	-12		+18	
	Absolute maximum, surge (duration ≤ 1s) †			±36	
Input impedance	To GND		18		kΩ
Resolution			12		bits
Integral linearity				±2	bits
Offset error			±2	±10	bits
Gain error			±1%	±3%	% FS[3]
Bandwidth (-3db)	Software selectable	0		1	kHz
ESD protection	Human body model	±5			kV

Safe Torque OFF (STO1+; STO1-; STO2+; STO2-)		Min.	Typ.	Max.	Units
Safety function	According to EN61800-5-2		STO (Safe Torque OFF)		
EN 61800-5-1/ -2 and EN 61508-5-3/ -4 Classification	Safety Integrity Level		safety integrity level 3 (SIL3)		
	PFHd (Probability of Failures per Hour - dangerous)	$8*10^{-10}$	hour^{-1} (0.8 FIT)		
EN13849-1 Classification	Performance Level		Cat3/PLe		
	MTTFd (meantime to dangerous failure)	377	years		
Mode compliance			PNP		
Default state	Input floating (wiring disconnected)		Logic LOW		
Input voltage	Logic "LOW" (PWM operation disabled)	-20		5.6	V
	Logic "HIGH" (PWM operation enabled)	18		36	
	Absolute maximum, continuous	-20		+40	
Input current	Logic "LOW"; pulled to GND		0		mA
	Logic "HIGH", pulled to $+V_{LOG}$		5	10	
Diagnosis Pulse duration	Ignored high-low-high			5	ms
	Accepted pulse			20	Hz
PWM operation delay	From Enabled low-high transition to PWM operation enabled			30	ms
ESD protection	Human body model	±2			kV

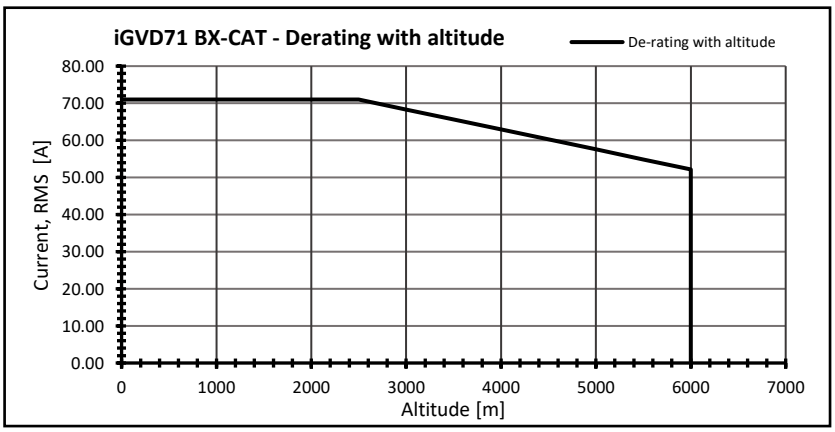
EtherCAT®		Min.	Typ.	Max.	Units
Compliance		IEEE802.3, IEC61158			
Transmission line specification	According to TIA/EIA-568-5-A	Cat. 5e.UTP			
J7, J8 pinout	EtherCAT® supports MDI/MDI-X auto-crossover	TIA/EIA-568-A or TIA/EIA-568-B			
Software protocols compatibility		CoE, CiA402, IEC61800-7-301			
Node addressing*	By hardware sliding switch	1 ÷ 31, 255			-
	By software	1 ÷ 255			
MAC addressing		none			-
ESD protection	Human body model	±15			kV

Remark: When Axis ID is 255, the EtherCAT register called "configured station alias" will be 0.

Supply Output (+5V)		Min.	Typ.	Max.	Units
Output voltage	Current sourced = 250mA	4.8	5	5.2	V
Output current		600	650		mA
Short-circuit		Protected			
Over-voltage		NOT protected			
ESD protection	Human body model	±1			kV

Conformity		Min.	Typ.	Max.	Units
EU Declaration - Pending-	2014/30/EU (EMC), 2014/35/EU (LVD), 2011/65/EU (RoHS), 1907/2006/EC (REACH), 93/68/EEC (CE Marking Directive), EC 428/2009 (non dual-use item, output frequency limited to 590Hz)				

† Stresses beyond values listed under "absolute maximum ratings" may cause permanent damage to the device. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.



[1] Differential input pins have internal 120Ω termination resistors connected across when SW1 pins 8, 9 are ON

[2] All differential input pins can have internal 120Ω termination resistors connected across (see SW1 settings)

[3] "FS" stands for "Full Scale"