DCmind Brushless Datasheet

80350 V1* + RAD 20

Geared motor

Series

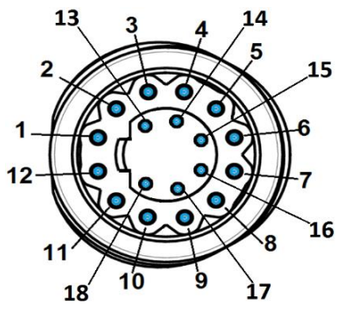
80352 SMI22 CAN

General characteristics

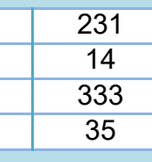
Part numbers				
Geared motor		80352001	80352003	80352005
Geared motor + brake		80352101	80352103	80352105
Gearbox characteristics				
Gearbox type		RAD 20		
Max. radial force	N	1830	1830	1830
Max. axial force	N	366	366	366
RATIO		**5**	**10**	**20**
Max. allowed torque	Nm	20	20	20
Max. gear play	°	0,55	0,55	0,55

Geared motor characteristics at 24V (5)				
At no load				
Max. output speed	rpm	646	323	162
Standby current	mA	50	50	50
At nominal				
Speed	rpm	600	300	150
Torque (2)	Nm	3	6	10
Output power	W	188	173	157
Current	A	15,4	15,4	15,4
Efficiency	%	51	47	42
At max. output power				
Speed	rpm	462	231	139
Torque	Nm	8	14	20
Output power	W	363	333	290
Current	A	35	35	35
Efficiency	%	44	40	35
At peak torque				
Speed	rpm	462	231	139
Torque	Nm	8	14	20
Output power	W	363	333	290
Current	A	35	35	35
Others				
Weight without brake	kg	3,6	3,6	3,6
Weight with brake	kg	4,3	4,3	4,3

Connecting	
I/O M16 connector 18 pins	**Pin N°**
Optional logic supply	1
0 Volt	2
Input 6 (analogic 1)	3
Input 5 (analogic 2)	4
Input 1 (digital)	5
Input 2 (digital)	6
Input 3 (digital)	7
Input 4 (digital)	8
0 Volt	9
Output 1 (digital - PWM)	10
Output 2 (digital - PWM)	11
Output 3 (digital)	12
Output 4 (digital)	13
0 Volt	14
STO 2 -	15
STO 2 +	16
STO 1 -	17
STO 1 +	18

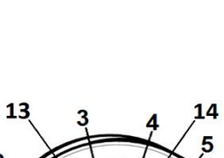


Power supply M16 connector 3 pins	Pin N°
Output ballast	1
+VDC	2
0 Volt	3



CAN M12 Connector - 5 pins	Pin N°
Not connected	1 / 2
CAN_GND	3
CAN_H	4
CAN_L	5

Brake connector	Pin N°
0 Volt	1
24 Vdc	3
Not connected	4



Motor Characteristics (1)		
Motor type		**80 350 001 - V1***
Direct current voltage supply		✓
Nominal voltage range	Vdc	9 --> 75
Max.current	A	**75**

Drive		
Type		**SMI22 CAN**
Built-in drive		✓
Internal magnetic encoder		4096 pulses/rev
Setting software on PC		DCmind soft CAN Open
Control		
Position - speed - torque		✓
4 quadrants		✓
With regenerative energy absorber (3)		✓
Type" Field Oriented Control"		✓
Security		
Wrong polarity from power supply		✓
Output shortcut		✓
Input inverted		✓
Low voltage	Vdc	< 9
Overvoltage (4)	Vdc	> 75
Internal drive temperature protection	°C	110
Temperature drive allowing to restart	°C	90

Geared motor parameters			
Output shaft with ball bearings		✓	
2 Safe Torque Off inputs	IEC61800-5-2/62061, ISO13849	✓	
Temperature range	IEC60068-2-1/2	°C	-30 -> +70
Storage temperature		°C	-40 -> +80
Dielectric (1s/2mA)	IEC60335	Vdc	1 955
Motor insulation	IEC60085	class	E
Salt spray	ISO9227	severity	48h
EMC			
Electrostatic discharge	IEC61000-4-2	level	3
Radiated field	IEC61000-4-3	level	3
Electrical fast transient/burst test	IEC61000-4-4	level	3
Surge test	IEC61000-4-5	level	1
Conducted disturbances	IEC61000-4-6	level	3
Radiated emission	EN55022	class	B
Approvals			
ROHS	2011/65/CE	✓	
EC		✓	
UL		Pending	
CAN Open	CIA 301 - DSP 402	✓	
Communication			
USB (Setting, monitoring)		Micro-USB B	
CAN open: address - node ID (factory settings)			0x20
CAN open: baud rate (factory settings)		kbaud	1 000

Brake characteristics		
Power OFF brake		YES
Voltage supply	Vdc	24 (+6% ; -10%)
Nominal holding torque	Nm	4,5
Input power	W	12

Notes
Values without tolerances are average production values.
(1) Cold motor, 20°C ambient temp., full speed, sinusoidal commutation
(2) Nominal torque for continuous operation at 20 °C, decrease this value for higher ambient temperature
(3) Ballast resistor to be added
(4) Can be configured via DCmind soft+CANopen
(5): Other values available, please refer to direct motor datasheet
* V1: see label on product

Additionnal information is available in the SQ75 product user manual and in the starter kit manual, available in www.crouzet.com

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Drive electrical data

Running data				
Parameters		Min.	Typical	Max.
Voltage power supply "Vdc"	Vdc	9	24	75
Current "Idc"	A	-	15	60
Standby power "Wo"	W	-	2	-
Voltage optional logic supply (see wiring diagram)	Vdc	9	-	75*

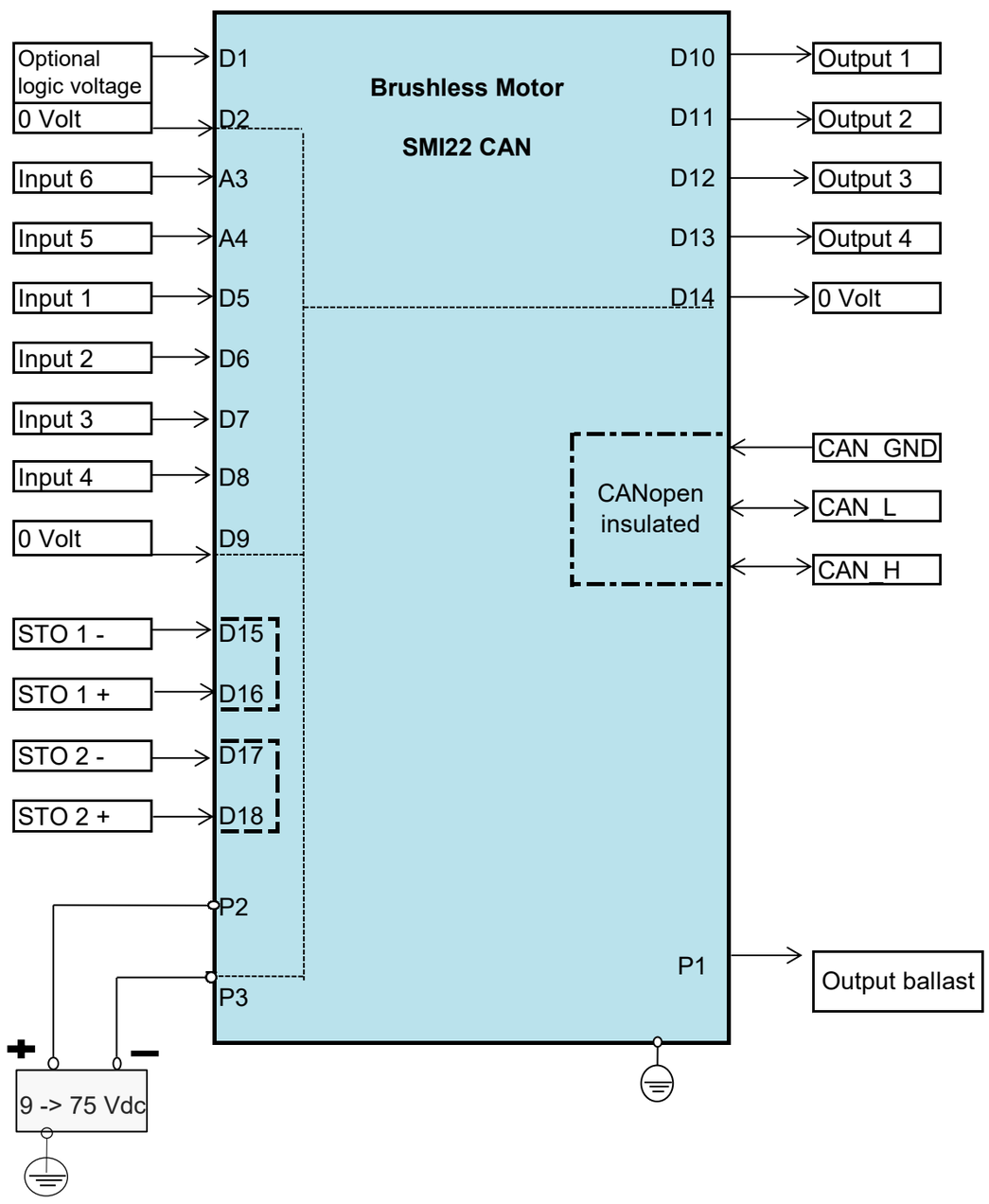
** UL: maximum voltage supply: 36 Vdc*

CAN Bus characteristics				
Parameters		Min.	Typical	Max.
CAN_L insulated	Vdc	0,5	1,5	2,25
CAN_H insulated	Vdc	2,75	3,5	4,5

Accessories

Starter kit			
Part number **79 513 105** Power/logic/CAN 3 m cables - Software - USB to Can Open adapter - CAN terminal resistor - CAN double connector			
Power supply cable	79 298 664	3m length	AWG18
Input-Output cable	79 513 106	3m length	AWG24
CAN cable M12	27 358 015	1m length	AWG26

Wiring

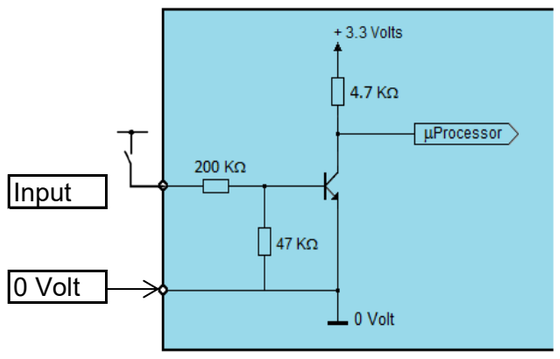


Input data					
Parameters				Min.	Typical	Max.
Input 1, 2, 3, 4	Impedance		kΩ	-	247	-
	Low level		Vdc	-90	-	2,4
	High level		Vdc	4,5	-	90
Input 5, 6	Impedance		kΩ	-	159	-
	Low level		Vdc	-90	-	2
	High level		Vdc	7,1	-	90
Inputs STO	Low level		Vdc	-2	-	4
	High level		Vdc	4,6	-	75

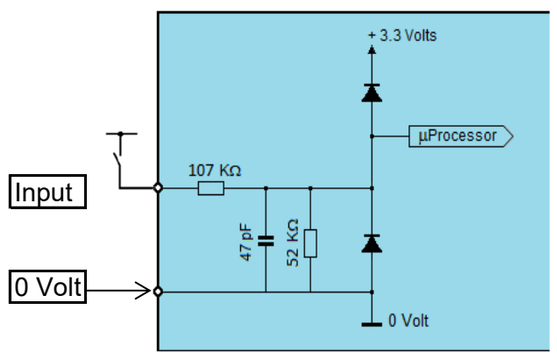
Output data				
Parameters		Min.	Typical	Max.
Low level Output 1, 2, 3, 4	mVdc	-	-	10
High level Output 1, 2, 3, 4	Vdc	-	4,75	-
Max output current "I outmax"	mA	-	-	50
I sink	mA			600

Input equivalent circuit

Inputs 1, 2, 3, 4

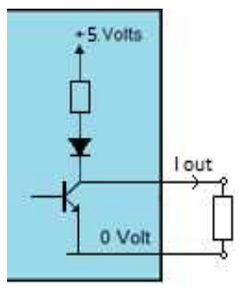


Inputs 5, 6

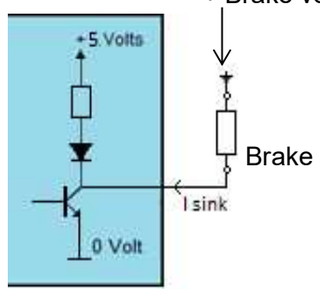


Output equivalent circuit

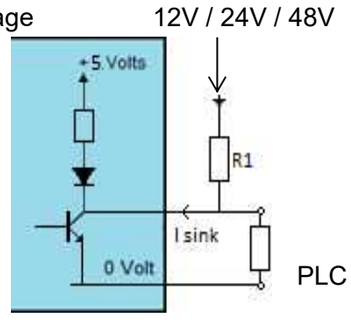
Output 1,2,3,4



I out max = 50 mA

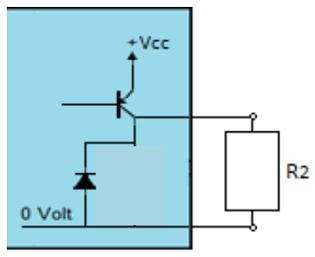


I sink max = 600 mA



I sink max = 600 mA
ex: R1 = 10 Kohms - 1/2W
R1 = 2 Kohms - 2W

Output ballast



Regenerative energy created per inertia load creates over-voltage. In case of too high value, connect R2 resistor through ballast output and ground to absorb this energy. Typical R2 value is 2.2 Ω. Power value depends from machine inertia. Max. voltage can be set.

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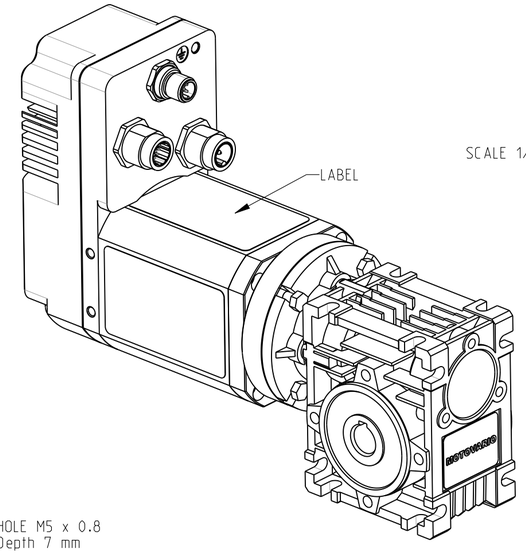
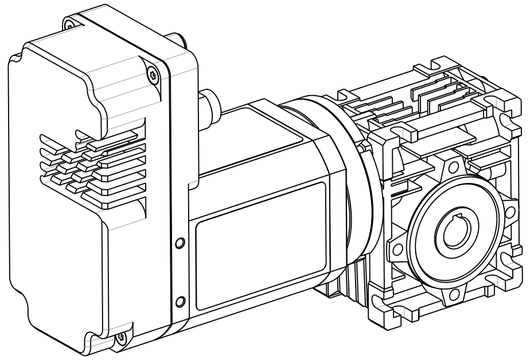
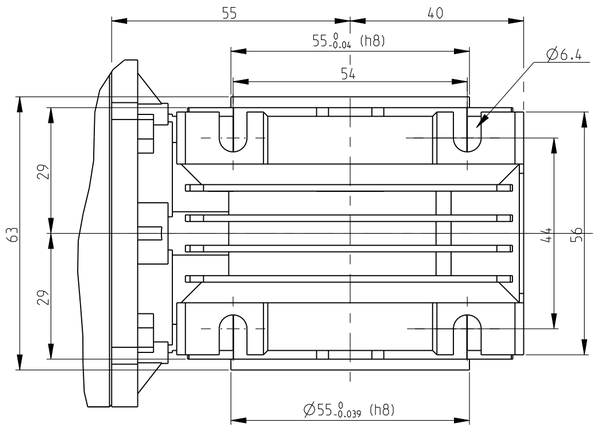
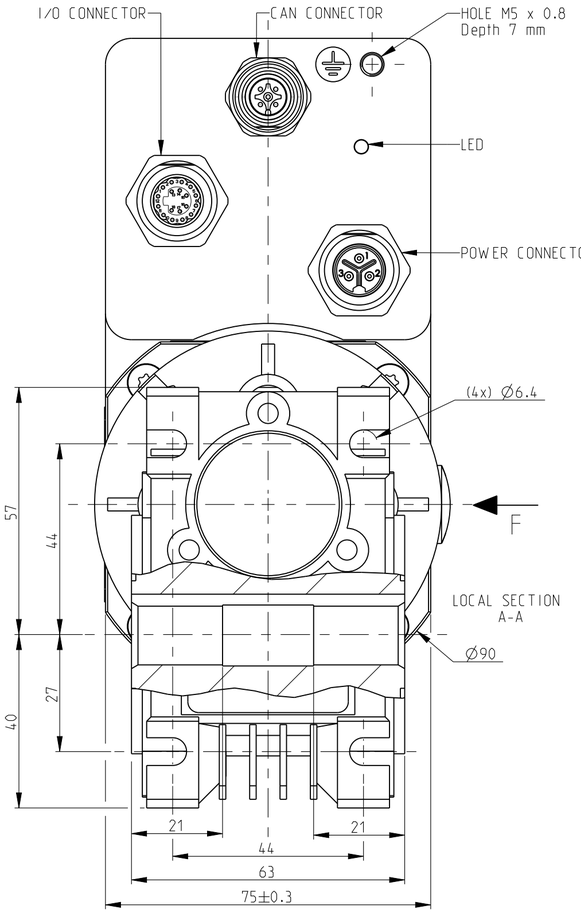
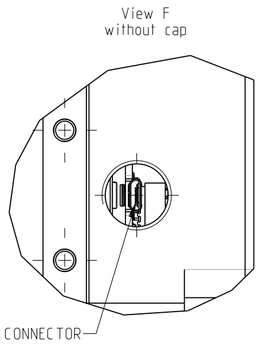


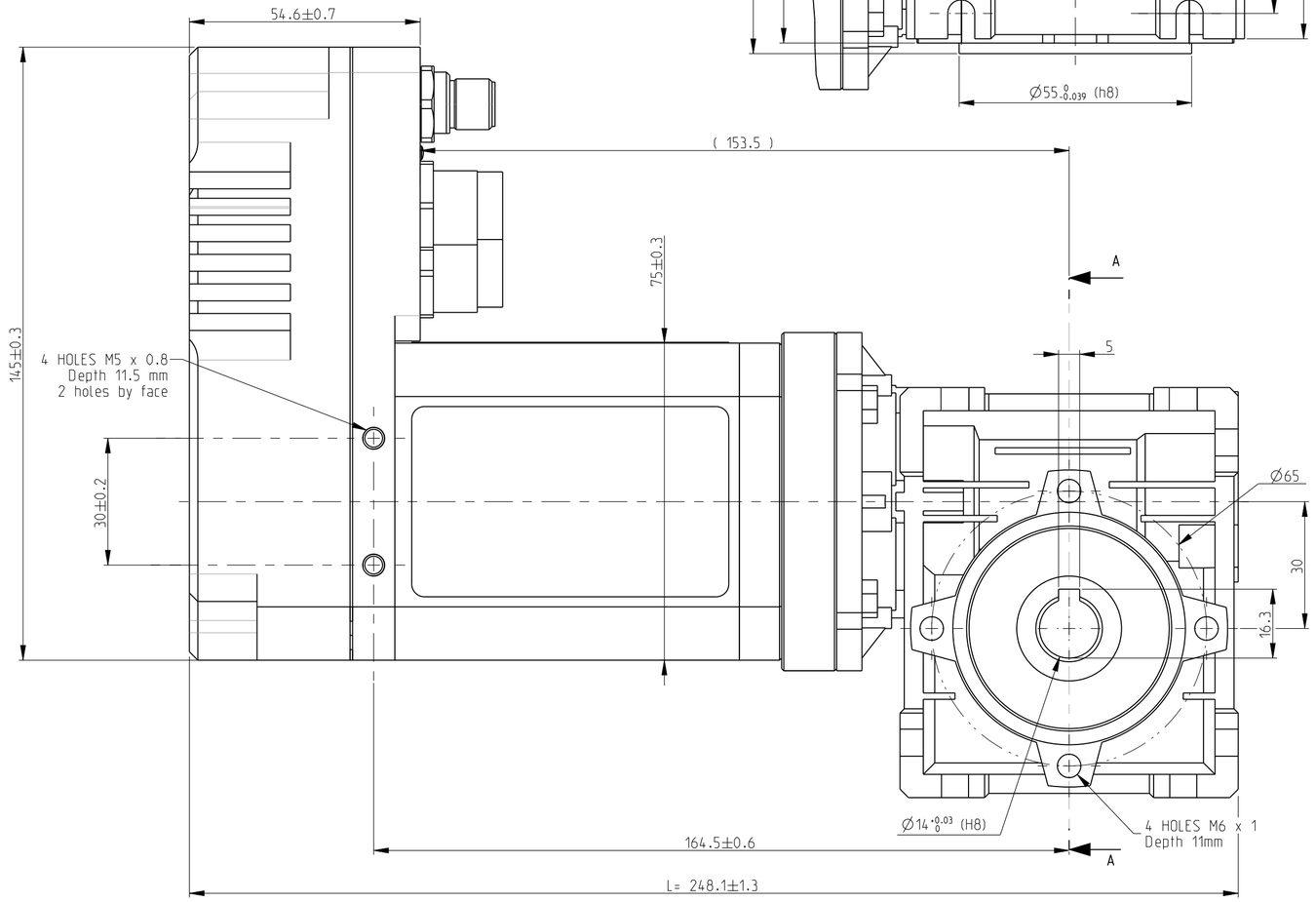
SCALE 1/2











SQ75-1 80352 L= 249.4 MAX

	GEAR MOTOR AVAILABLE					
	80 352 001	80 352 002	80 352 003	80 352 004	80 352 005	80 352 006
	RIGHT ANGLE GEARBOX CORRESPONDING					
RIGHT ANGLE GEARBOX AVAILABLE						
POIDS	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg
JEU ANGULAIRE MAXI	0.5°	0.5°	0.5°	0.5°	0.5°	0.5°
DIAM_ARBRE_MOTEUR	11	11	11	11	11	11
PAM	56B14	56B14	56B14	56B14	56B14	56B14
REFERENCE FOURNISSEUR	NMRV03000511080	NMRV03000711080	NMRV03001011080	NMRV03001511080	NMRV03002011080	NMRV03003011080
RAPPORT	5	7.5	10	15	20	30
COULEUR	RAL 5010	RAL 5010	RAL 5010	RAL 5010	RAL 5010	RAL 5010
Reference	79298301	79298302	79298303	79298304	79298305	79298306

80350 V1 + RAD20

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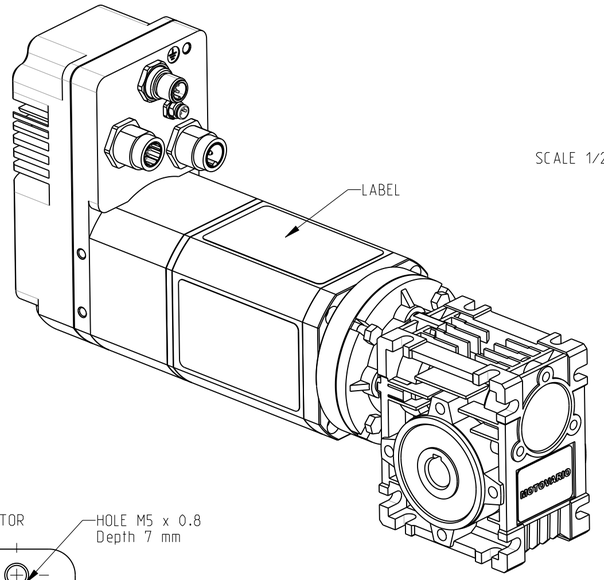
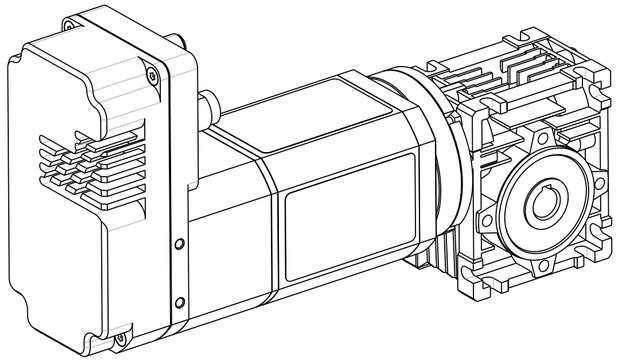
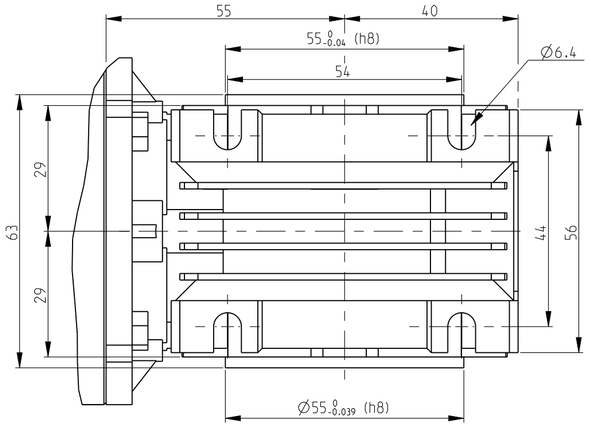
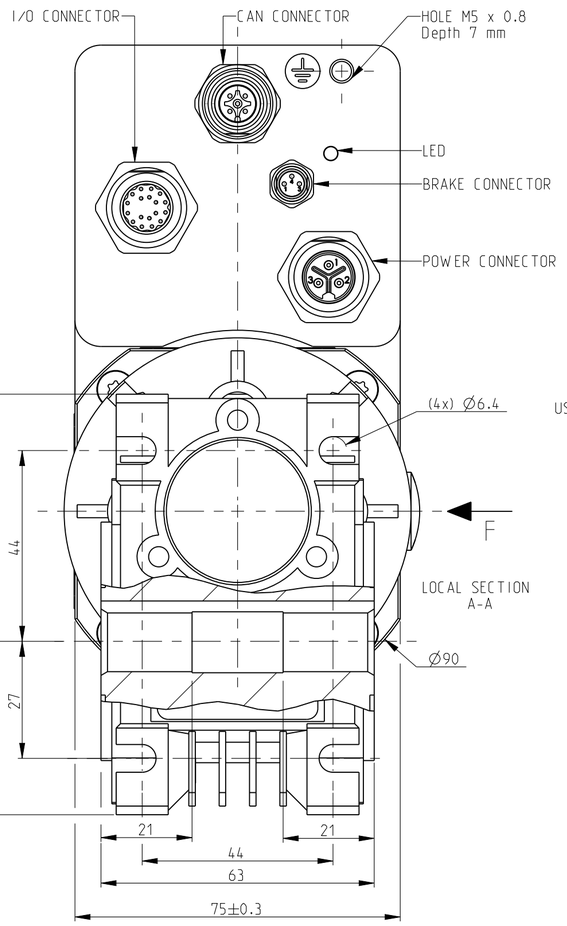
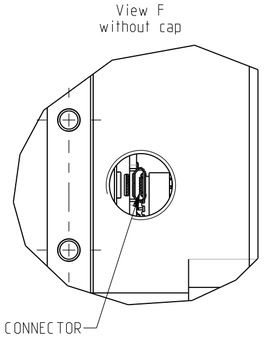


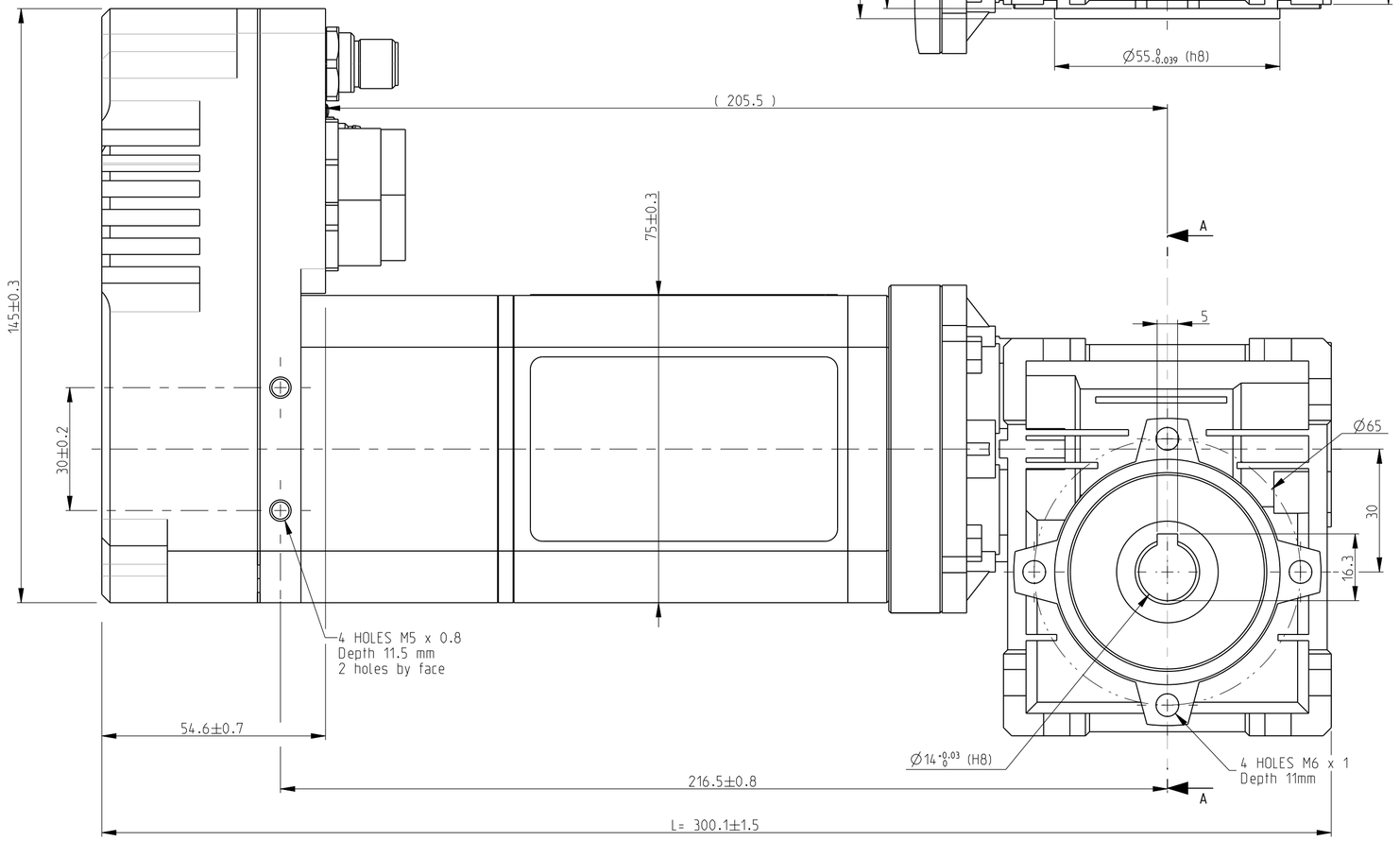
SCALE 1/2











SQ75-1 803521 L= 301.6 MAX

	GEAR MOTOR AVAILABLE					
	80 352 101	80 352 102	80 352 103	80 352 104	80 352 105	80 352 106
	RIGHT ANGLE GEARBOX CORRESPONDING					
RIGHT ANGLE GEARBOX AVAILABLE						
POIDS	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg	1.2 Kg
JEU ANGULAIRE MAXI	0.5°	0.5°	0.5°	0.5°	0.5°	0.5°
DIAM_ARBRE_MOTEUR	11	11	11	11	11	11
PAM	56B14	56B14	56B14	56B14	56B14	56B14
REFERENCE FOURNISSEUR	NMRV03000511080	NMRV03000711080	NMRV03001011080	NMRV03001511080	NMRV03002011080	NMRV03003011080
RAPPORT	5	7.5	10	15	20	30
COULEUR	RAL 5010	RAL 5010	RAL 5010	RAL 5010	RAL 5010	RAL 5010
Reference	79298301	79298302	79298303	79298304	79298305	79298306

80350 V1 + RAD20 + BRAKE

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