

# UNIMOTION

## STMN-42-L-E DATASHEET

ID: 109425

### Description

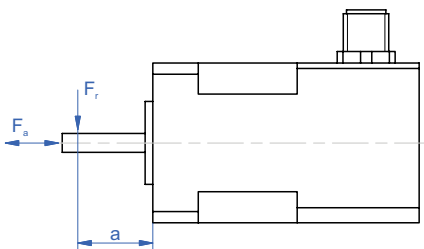


- High-torque stepper motor
- NEMA 17 flange
- Protection class IP65
- M Type connectors
- Incremental encoder
- Plug & Play solution with the Unimotion drives
- RoHS 2011/65/EU, 2015/863/EU approved

### General technical data

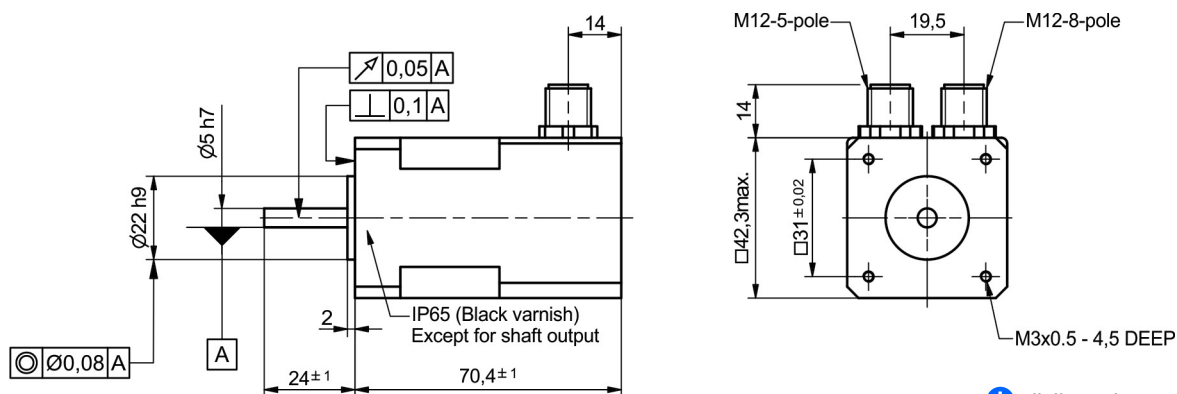
	PARAMETER	UNIT	VALUE
MOTOR	Voltage	[V DC]	3,15
	Current per phase	[A]	1,8
	Mass moment of inertia	[kg cm <sup>2</sup> ]	0,082
	Holding torque	[Nm]	0,5
	Step angle	[°]	1,8 ± 5 %
	Resistance per phase	[Ω]	1,75 ± 10 %
	Inductance per phase	[mH]	3,3 ± 20 %
	Voltage constant	$\frac{mV}{min^{-1}}$	23
	Mass	[kg]	0,44
ENCODER	Type		Incremental
	Measuring principle		Opto-electrical
	Interface		Line drive
	Resolution	[cpr/ppr]	500/2000
	Operating voltage	[V DC]	5
OPERATING CONDITIONS	Temperature rise: (Motor standstill; for 2 phase energized)	[°C]	max. 80
	Ambient temperature	[°C]	-10 ~ +50
	Ambient humidity	[%]	max. 85 (non-condensing)
	Protection class		IP65
	Duty cycle	[%]	100
	Insulation resistance	[MΩ]	100
	Insulation class		B (max. 130 °C)
	Dielectric strength	[V AC]	500 for 1 minute

## Permissible axial and radial forces



PARAMETER		UNIT	VALUE			
PERMISSIBLE FORCES	Axial force ( $F_a$ )	[N]	15			
	Distance a	[mm]	5	10	15	20
	Radial force ( $F_r$ )	[N]	50	36	26	20
			Axial		Radial	
	Shaft play	[mm]	0,08			
At load max	[N]	4,5		4,5		

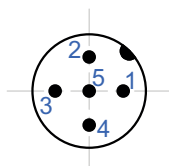
## Dimensions



**i** All dimensions are in mm.  
The scale of the drawings may not be equal.

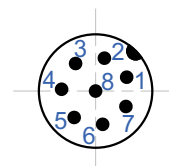
## Motor pin allocation

Motor connector (Connector type: M12 5-pole):



PIN	FUNCTION
1	A-
2	A+
3	B+
4	B-
5	Housing

Encoder connector (Connector type: M12 8-pole):



PIN	FUNCTION
1	A+
2	A-
3	B+
4	B-
5	GND
6	I-
7	I+
8	VCC (5 V)
Housing	GND/Shielding