

Safedoor

Technical Sheet

English (original)
Version 2.0.0

Made **4**
CNC

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Technical Sheet Safedoor

Safedoor is a unique automatic door system, especially designed for robotic tending of CNC machines. The Safedoor system is also an ideal solution for CNC tending without a robot, improving operator ergonomics.

The system contains actuator(s), and a controller which together enables safe, fast, and reliable operation of a CNC machine door.

With adjustable travel speed and built-in force monitoring it is capable of safe operation alongside human operators.

Features

- Easy installation, programming, and risk assessment
- Optimized for integration with collaborative robots.
- Fast and silent operation.
- Automatic door size adjustment
- Force control optimized for safe and reliable operation.
- Emergency stop input for simultaneous stop when CNC and/or robot is emergency stopped.
- Capable of handling both single and double door CNC machines.
- Flexible mounting brackets for easy integration with different CNC machines.

	Minimum	Typical	Maximum	Unit
Stroke, S	600 (23.6)	-	1600 (63)	mm (in)
Installation length	S + 225 (S+8.86)	-	2*S + 225 (2*S + 8.86)	mm (in)
Adjustable Speed	250 (9.8)	375 (14.8)	500 (19.7)	mm/s (in/s)
Open/close time @ 750 mm		3.1*		s
Exerted force			150	N
Door weight		100 220	400 880	kg lb

* Traversal speed depends on settings and dynamic parameters of the specific door. See **Error! Reference source not found.** in the User Manual page **Error! Bookmark not defined.**

Specifications

IP rating, controller	IP66
IP rating, actuator	IP54
Digital interfaces	24V galvanically isolated I/Os
Robot Integrations	URCap, Universal Robots (Polyscope ≥ 3.14 or 5.9) Omron Components, TM Robots (TMFLOW ≥ 1.76.3300) Fanuc Plugin, CRX robots (Version ≥ 9.40P/06) Doosan App, Series A, H and M Robots (Version ≥ V2.7.3) ABB Add-in, Wizard blocks for GoFa, SWIFTI, single-arm- YuMi, IRB 1100 and IRB 1300 Kuka iiQKA.OS (Version ≥ 1.0) Kassow CBun
Dimensions, controller	300 x 300 x 155 mm (11.8 x 11.8 x 6.1 inch)
Dimensions, actuator	S+253 x 160 x 90 mm (S+10 x 6.3 x 3.5 in)
Actuator cable	5 m (16.4 ft)
Weight, controller	6.6 kg (14.5 lb)
Weight, actuator	5 - 12 kg, depending on stroke (11 - 26 lb, depending on stroke)

Typical applications

- CNC machine tending by collaborative robots
- CNC machine tending by operators, improving ergonomics
- Automatic operation of CNC machines with one or two doors

Operating Conditions

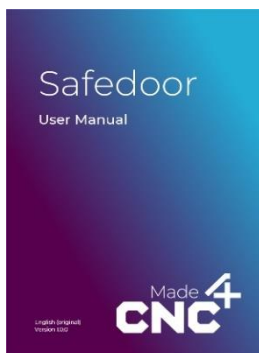
	Min.	Typical	Max.	Unit
Input voltage	90	230/110	260	VAC
Input voltage frequency	47	50/60	63	Hz
External fuse	6	-	16	A
Operating temperature, ambient	0	-	50	°C
	32	-	122	°F
Relative humidity (non-condensing)	10	-	95	%
Calculated MTBF (5 min cycle)	33,000			hours

What is in the box?

The system is composed of two packages: one with the controller and another package per actuator. Depending on the type of CNC machine, you will need a controller package and either one or two actuator packages.

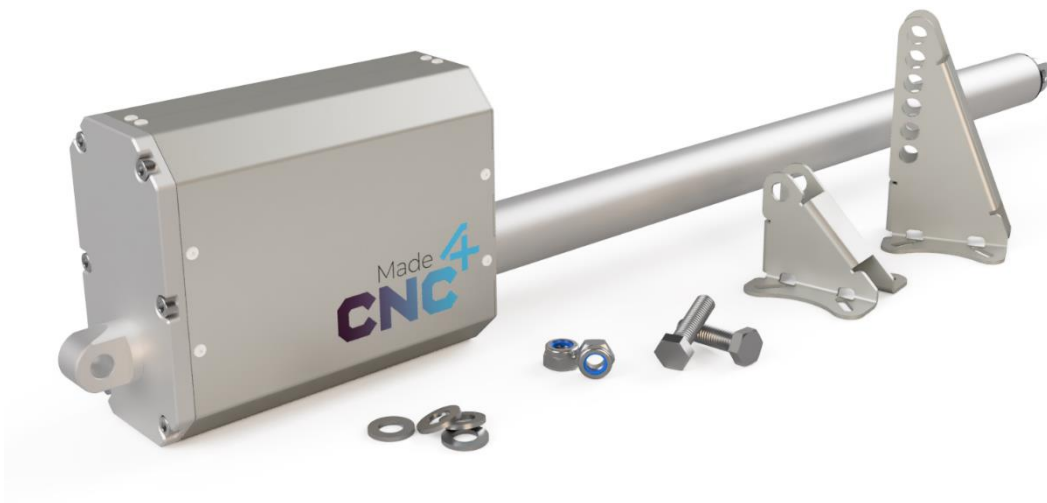
The controller package contains

- Safedoor Controller
 - Power supply (110/220VAC to 24VDC)
 - 5m power cable (N+L+PE)
 - Printed instruction manual
- USB stick, containing:
 - Digital instruction manual
 - URcap for [Universal Robots](#) (PolyScope v. 3.14 / 5.9 and above)
 - Components for [Omron TM Robots](#) (TMFLOW 1.76.3300 and above)
 - Plugin for [Fanuc CRX Robots](#) (Controller Software V9.40P/06 and above)
 - App for Doosan Series [A, M and H Robots](#) (Controller software V2.7.3 and above)
 - Add-in for ABB robots, Wizard blocks for [GoFa, SWIFTI, single-arm YuMi, IRB 1100 and IRB 1300](#), KUKA KR C5 Micro
 - Kassow CBun
- Operator panel with 5m cable



Each actuator package contains:

- Safedoor actuator:
 - Stroke, S, as designated on label,
 - 300 N (67.5 lbf)
 - 500 mm/s (19,7 in/s)
 - 5m cable
- Low mounting bracket
- Tall mounting bracket
- Bag of mounting fasteners:
 - 2x M12x45 bolts
 - 2x M12 lock nuts
 - 4x M12 washers



Please check that all the parts are present and without defects before starting the installation.