

Safedoor

Technical Sheet

English (original)
Version 2.1.0

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

- Linear actuators ensure simple mounting and operation.
- Easy installation, configuration, programming and risk assessment.
- Built-in force monitoring and safety feature.
- Fully automated configuration ensuring optimal performance.
- Dual electrical control interfaces for easy electrical integration.
- Optimized for integration with robots in machine tending applications.
- Kits available for single- or double door machines.
- Flexible mounting brackets for hassle-free mounting.
- Software plugins for all major robot brands.

Typical applications

- **CNC machine automation:** Automates door operations to enable automation and robotic machine tending.
- **Robotics:** Integrates with collaborative robots for seamless automation of equipment door movements.
- **Manufacturing:** Suitable for automated door control in various manufacturing equipment, improving workflow efficiency and operator ergonomics.

	Minimum	Typical	Maximum	Unit
Stroke, S	400	-	1600	mm
	15.75		62.99	in
Installation length	stroke + 225	-	2 x stroke + 225	mm
	stroke + 8.86		2 x stroke + 8.86	in
Adjustable Speed	250	375	500	mm/s
	9.84	14.76	19.68	in/s
Open/close time @ 750 mm		3.1*		s
Exerted force			150	N
Door weight		100	400	kg
		220	880	lb

* Traversal speed depends on settings and dynamic parameters of the specific door. See *Configuration and Settings* in the *Safedoor User Manual*.

Specifications

IP rating, controller	IP66
IP rating, actuator	IP54
Digital interfaces	24V galvanically isolated I/Os
Robot Integrations	Universal Robots URCap (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, for GoFa, SWIFTI, YuMi, IRB 1100 and -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	Stroke+253 x 160 x 90 mm Stroke+10.0 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

Operating Conditions

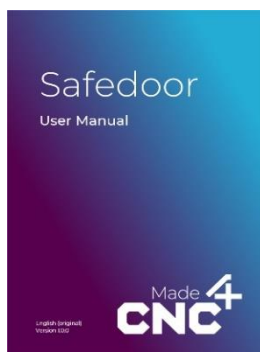
	Min.	Typical	Max.	Unit
Input voltage	90	230/110	260	VAC
Input voltage frequency	47	50/60	63	Hz
External fuse	6	-	16	A
Operating temperature, ambient	0	-	50	°C
	32	-	122	°F
Relative humidity (non-condensing)	10	-	95	%
Calculated MTBF (5 min cycle)	33,000			hours

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.

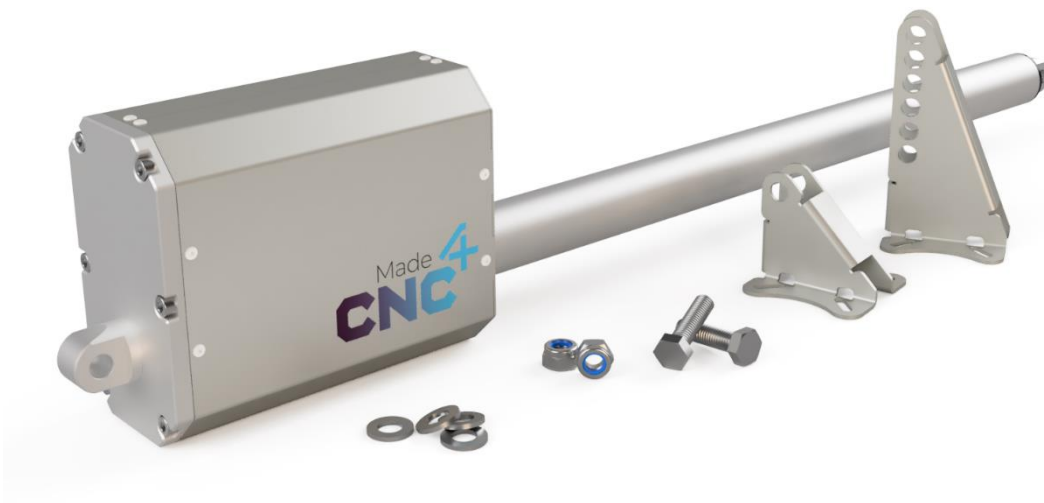
The controller package contains

- Safedoor Controller
 - Safedoor controller board
 - Power supply (110/220VAC to 24VDC)
 - Printed instruction manual
 - 5m power cable (N+L+PE)
 - Cable entry plate with 9 PG11 knockouts
 - 9x PG11 for Ø5-10mm cables
- USB stick, containing:
 - Digital Instruction Manual
 - Digital Robot Instructions
 - 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
 - Extra panel sticker for machine front mounting



Each actuator package contains:

- Safedoor actuator:
 - Stroke as designated on label,
 - 300 N (67.5 lbf)
 - 500 mm/s (19,7 in/s)
 - 5m cable
- Short mounting bracket
- Tall mounting bracket
- 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.