Safedoor

Technical Sheet

English (original)
Version 1.1.3

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Technical Sheet SD100

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	100	-	1000	mm
Installation length	1224.5 48.2		2224.5 87.5	mm inch
Adjustable Speed	280	500	500	mm/s
Open/close time @ 750 mm		3.1		s
Force @ 15 mm opening		108	150	N
Force @ 40 mm opening		124	150	N
Weight of a door		100 220	400 880	kg lb

Specifications	
IP rating, controller	IP66
IP rating, actuator	IP54
Digital interfaces	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) 24V galvanically isolated I/Os
Dimensions, controller	300 x 300 x 155 mm 11.8 x 11.8 x 6.1 inch
Dimensions, actuator	1224.5 x 284 x 130 mm 48.2 x 11.2 x 5.1 inch
Weight, controller	6.6 kg 14.5 lb
Weight, actuator	11.2 kg 24.7 lb

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

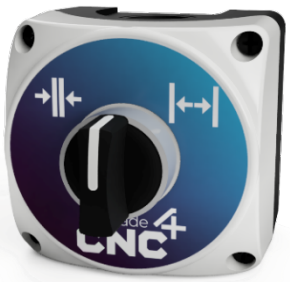
	Min.	Typical	Max.	Unit
Input voltage	90	230/110	260	VAC
Input voltage frequency	47	50/60	63	Hz
External fuse	6	-	16	A
Operating temperature, ambient	0	-	50	°C
	32	-	122	°F
Relative humidity (non-condensing)	10	-	95	%
Calculated MTBF (5 min cycle)	33,000			hours

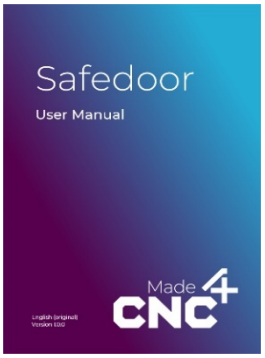
What is in the box?

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

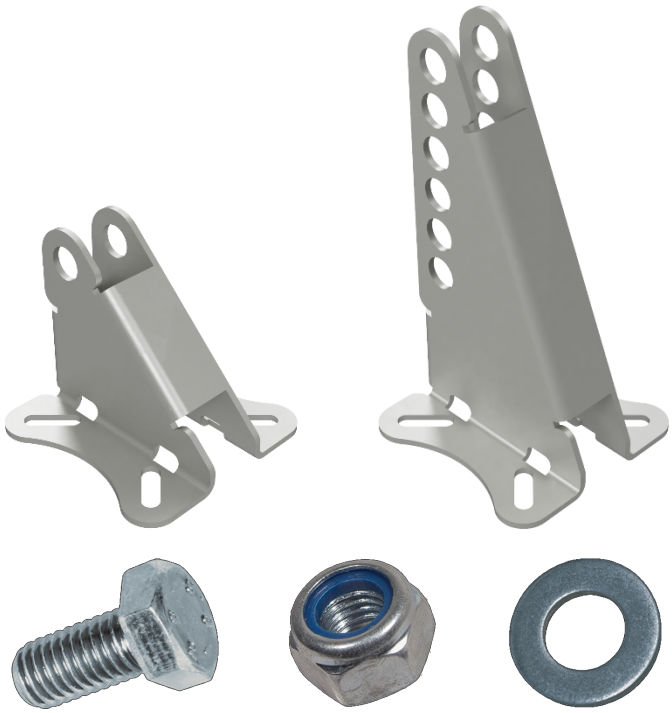
- Controller board
  - Power supply (110/220VAC to 24VDC)
  - 5m power cable (N+L+PE)
  - Printed instruction manual
- USB stick, containing:
  - Digital instruction manual
  - URCap for Universal Robots (PolyScope v. 3.14 / 5.9 and above)
  - Components for Omron TM Robots (TMFLOW 1.76.3300 and above)
  - 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)
- Operator panel with 5m cable





Each actuator package contains:

- Actuator, 1000mm, 300N, 500mm/s
- 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.