

AIRSKIN® Safetyflange

AIRSKIN Safetyflange is a compliant robotic collision sensor. Based on the proven AIRSKIN® pressure-sensitive skin technology, the AIRSKIN Safetyflange detects tool and workpiece collisions to safely stop the robot.



- ↳ Implement "Finger-safe" applications meeting ISO/TS 15066 (ISO 10218:2021) requirements
- ↳ Adjustable break-away forces to meet the productivity and safety demands of your application
- ↳ Compliance in all directions minimizes contact forces
- ↳ Automatic reset with industrial robot repeatability
- ↳ Easy to mount with any robot and tool using exchangeable ISO 9409-1 adapters
- ↳ Safety certified according to ISO 13849-1 PLe/Cat3 and IEC 62061 SIL 3
- ↳ For a wide range of applications (palletizing, machinetending, visual inspection, gluing, ...)



Safetyflange 10



Safetyflange Pro



Safetyflange 20

	Safetyflange 10	Safetyflange Pro	Safetyflange 20
Payload	10 kg	15 kg	20 kg
Weight	0,7 kg	1,4 kg	4,2 kg
Dimensions	127*85 mm	180*101 mm	227*143 mm
Translation	11 mm	11 mm	30 mm
Tilting	±9°	±10°	±9°
Rotation	±10°	±10°	±12°
Benefits	<p>Small and light weight</p> <p>5 exchangeable springs to adjust break-away forces</p> <p>Perfect for wrist-down pick and place applications</p>	<p>Maximum versatility</p> <p>Independently adjustable breakaway forces</p> <p>Perfect for complex machinetending applications</p>	<p>For heavy lifting</p> <p>Uses 3 exchangeable springs and magnets for extra performance</p> <p>Perfect for end-of-line palletizing applications</p>

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Operating conditions

Ambient temperature during operation	5–50 °C
Humidity level	0–85 %
IP rating	IP54
Chemical resistance	Common cleaning agents, oil, alcohol, sanitizer
UV resistance	100 %
Tolerable g-force	15 g

Electrical connection

Supply voltage	24 V DC
Current consumption	typ. 420 mA, max. 1500 mA
Electrical interface	OSSD (6 Wires: 2 Safety Channels IN/OUT, 24 V, Ground)
AIRSKIN topology	1 lane with up to 15 AIRSKIN pads, each connected to AIRSKIN Connection Box (ACB)
Connection to robot	ACB connected to safety inputs on safety PLC or robot controller

General

Reaction time	< 9 ms
Actuation force	~5 N
Technical Lifetime	10 years / 1 000 000 activations
Colours	White (standard), grey
Visual feedback	RGB status LEDs

Certificates

ISO 13849-1	PLe / Cat 3
EN/IEC 62061	SIL CL 3
UL 1740:2018	
ANSI/RIA R15.06-2012	
CAN/CSA-Z434-14 + G11	
Flammability	UL 94 V-2
EC type examination Nr.	TÜV-A-MHF/MG17-00411
TUV Rheinland certificate Nr.	CU 72192170 0001
For a lane with 15 AIRSKIN® pads	
PFHd [1/h]	1.38e-8
MTTFd	154 years
DC	99%