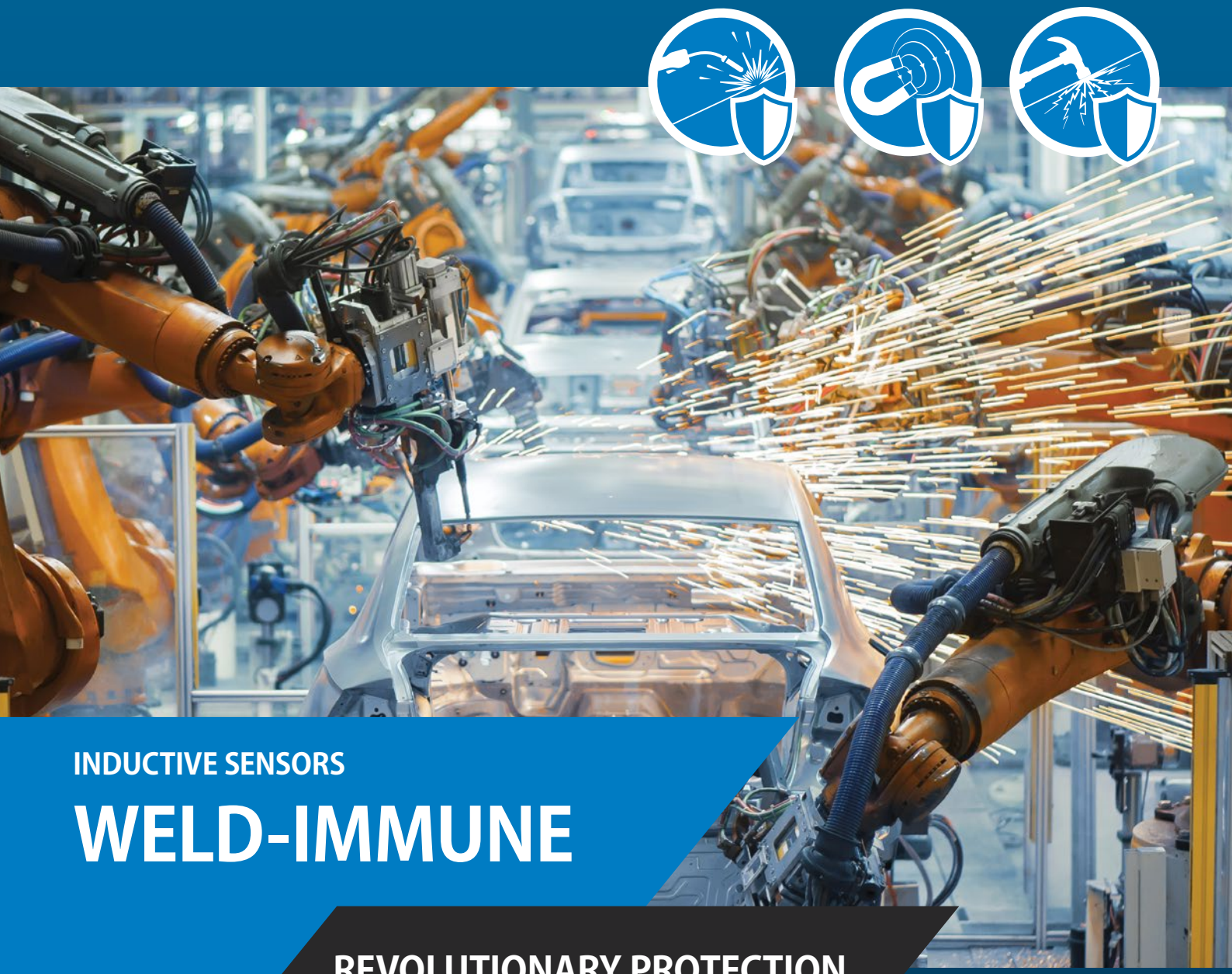
CONTRINEX
SENSORS SAFETY RFID



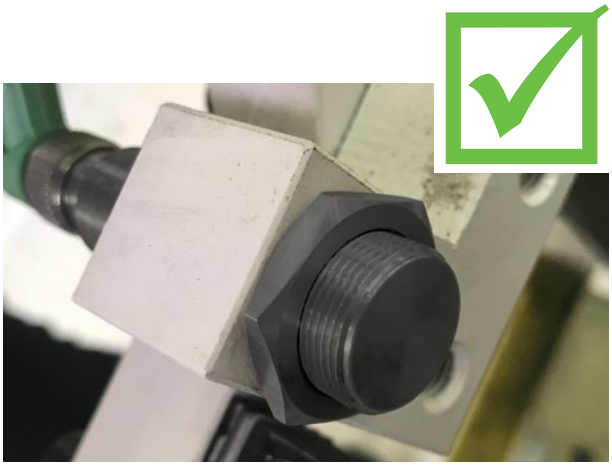
INDUCTIVE SENSORS

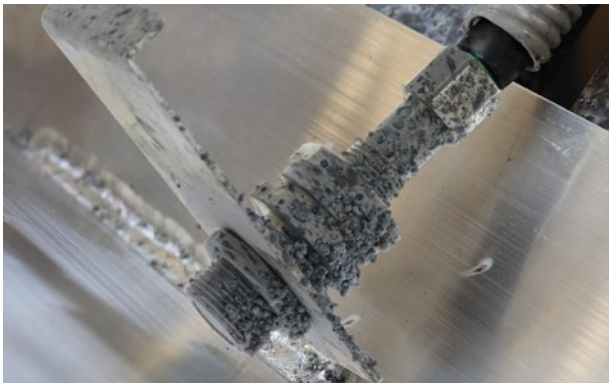
WELD-IMMUNE

REVOLUTIONARY PROTECTION FOR LONG LIFE

- ✓ ANTI-SPATTER COATING
- ✓ WELD-FIELD IMMUNITY
- ✓ IMPACT RESISTANCE

REVOLUTIONARY PROTECTION





CHALLENGES

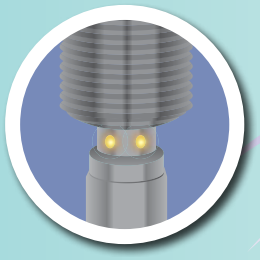
SOLUTIONS

WELD SPATTER

- Reduced sensor performance
- Spatter accumulation and harsh cleaning
- Time-consuming sensor replacement

ANTI-SPATTER COATING

ACTIVSTONE® high-integrity ceramic coating on all external surfaces resists abrasion and weld spatter in MIG, MAG and spot-welding applications. See page 4.



MAGNETIC FIELDS

- Interference with inductive sensor
- False triggering
- Locked-on sensor output

WELD-FIELD IMMUNITY

Contrinex sensors are immune to magnetic interference from medium-frequency (MF) weld fields (current ≤ 15 kA) and 50Hz weld fields (amplitude ≤ 40mT). See page 5.

MOVING PARTS

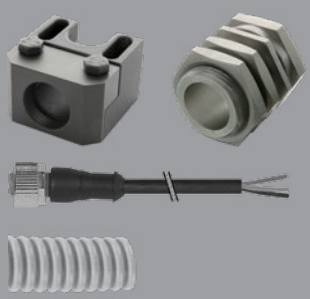
- Collisions with moving workpieces
- Damage to ferrite, electronics and housing
- Costly machine downtime

IMPACT RESISTANCE

With one-piece stainless-steel housings and Condet® technology, Full Inox sensors offer maximum impact resistance. See page 6.

ACCESSORIES

ACTIVSTONE®-coated mounting brackets, spatter-resistant cables and protective tubes offer extended protection.
Uncoated brackets are also available.
See pages 12 and 13.



ANTI-SPATTER COATING

HIGH-INTEGRITY CERAMIC

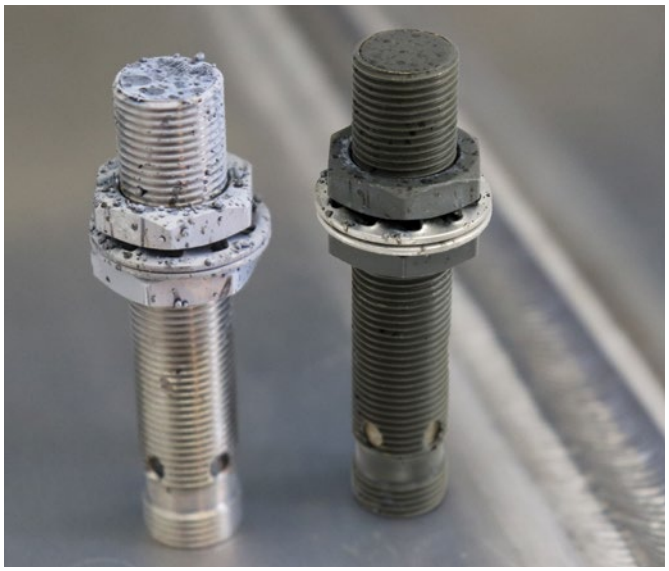
The ACTIVSTONE® SX coating provides long-term protection in welding applications. This high-performance ceramic layer forms an abrasion-proof, non-stick coating on all external surfaces of the sensor, preventing weld-spatter accumulation. The coating provides exceptional robustness in MIG, MAG and spot-welding applications and withstands frequent wire-brush cleaning. Coated mounting brackets are also available.

HIGHLY DURABLE COATING FOR REDUCED SENSOR MAINTENANCE

ADVANTAGES OF ACTIVSTONE® COATING

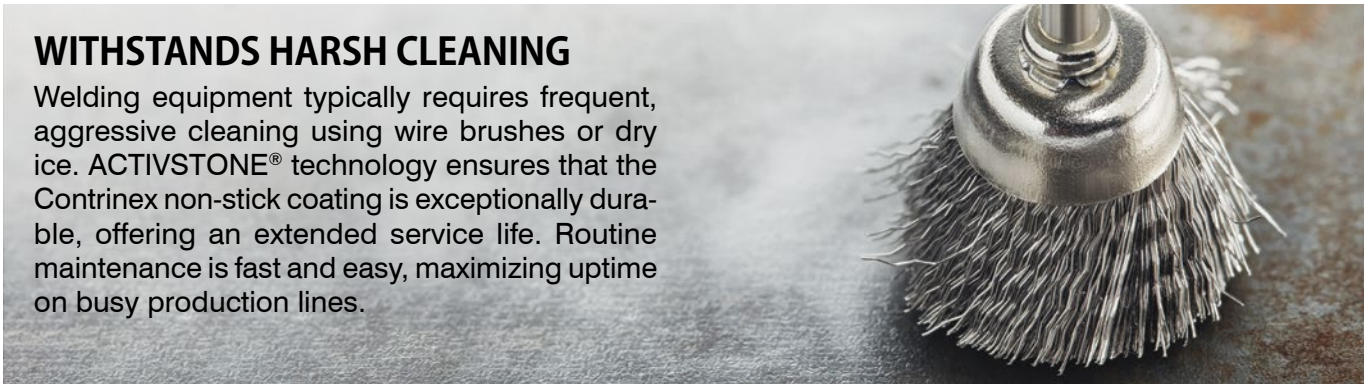
- Non-stick formula prevents weld-spatter accumulation
- Easy spatter and slag removal during maintenance
- High thermal resistance for extended service life and sensor reliability
- Outstanding resistance to abrasion and aggressive cleaning
- No delamination of coating when deformed
- Excellent impact resistance: no cracking or peeling

UNCOATED (L) vs COATED (R)



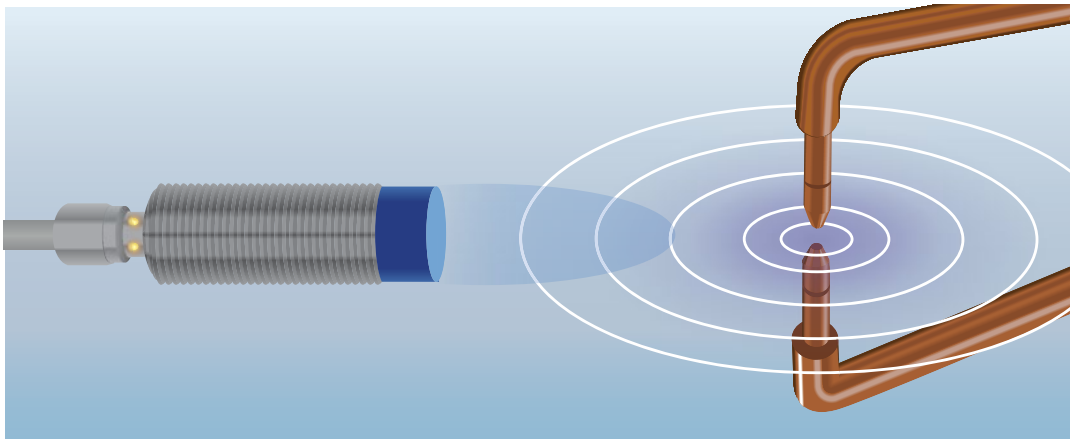
WITHSTANDS HARSH CLEANING

Welding equipment typically requires frequent, aggressive cleaning using wire brushes or dry ice. ACTIVSTONE® technology ensures that the Contrinex non-stick coating is exceptionally durable, offering an extended service life. Routine maintenance is fast and easy, maximizing uptime on busy production lines.

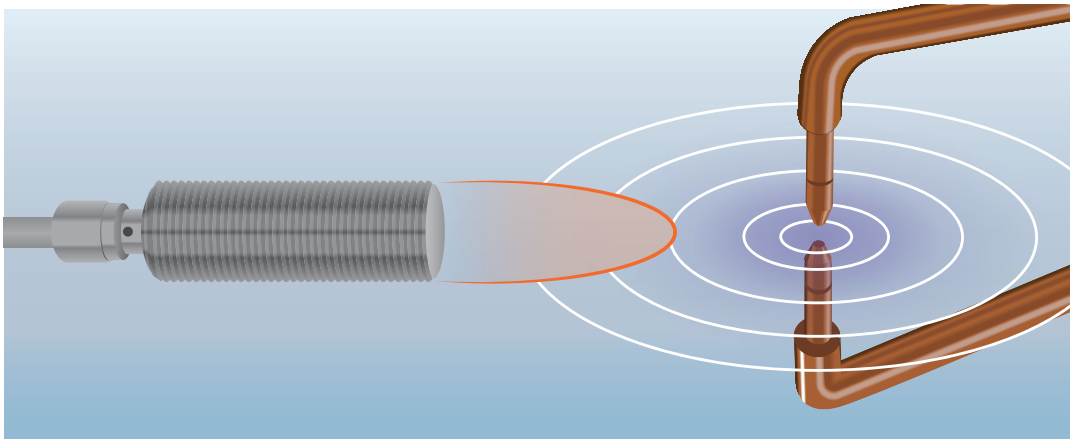


INTERFERENCE-SUPPRESSION TECHNOLOGY

Strong magnetic fields from welding equipment cause false triggering in unprotected inductive sensors. Weld-Immune sensors from the Full Inox and Classics technology families meet this challenge with innovative interference-suppression designs. Sensors benefit from optimum detection sensitivity (long range) combined with immunity to magnetic interference from 50Hz fields (amplitude ≤ 40mT) and MF welding stations (current ≤ 15 kA).



Unprotected conventional inductive sensor: the magnetic field from welding equipment disrupts the sensor's own magnetic field and causes false triggering.



Contrinex inductive sensor with immunity: the magnetic field from welding equipment does not affect sensor performance and the sensor detects targets correctly.

INSENSITIVITY TO MAGNETIC FIELDS

ADVANTAGES OF INTERFERENCE-SUPPRESSION TECHNOLOGY

- Immunity to magnetic interference from welding environment
- Targets are detected during welding without false triggering
- Factory-optimized detection sensitivity
- Long sensing range: increased or double operating distance reduces the risk of collisions
- Ideal for automated welding cells in the automotive industry
- Suitable for other environments with high-strength magnetic fields
- Reliable, proven technology

IMPACT RESISTANCE

FULL INOX TECHNOLOGY

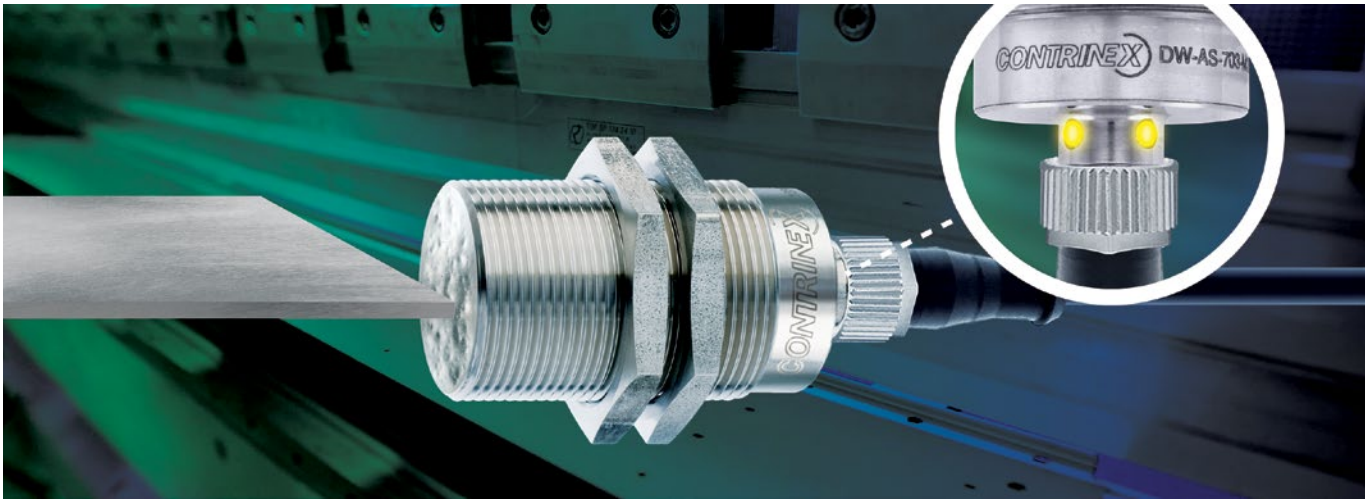
Sensors with Full Inox technology are ideal for the harshest welding environments. A one-piece stainless-steel housing (V2A /AISI 303) provides excellent chemical and mechanical resistance, withstanding extreme abrasion, shocks and vibration. Contrinex's exclusive Condet® technology ensures sensors operate reliably even after repeated impacts.

Full functionality even after heavy impact: Condet® technology ensures reliable switching, even when impact damage to the ferrite is severe

HIGH PERFORMANCE AND EXTREME DURABILITY

ADVANTAGES OF CONDET® OPERATING PRINCIPLE

- Extended sensor life owing to robust housing and electronics
- Long operating distances reduce risk of collisions with moving parts
- Condet® technology ensures reliable switching, even when impact damage to the ferrite is severe
- One-piece, stainless-steel housing
- Resistance to harsh cleaning methods and impacts
- Sensitivity unaffected by weld spatter, metallic particles or chips
- Factor 1 on steel and aluminum
- Sealed housing IP68 and IP69K



SENSOR SELECTOR

		FULL INOX (700 SERIES)		CLASSICS (600 SERIES)	
		FULL INOX HOUSING + DOUBLE OPERATING DISTANCE		PLASTIC FACE + INCREASED OPERATING DISTANCE	
		COATED	UNCOATED	COATED	UNCOATED
					
KEY FEATURES	Anti-spatter coating p. 4	✓		✓	
	Weld-field immunity p. 5	✓	✓	✓	✓
	Impact resistance p. 6	✓	✓		
	Long operating distance p. 6	✓	✓	✓	✓
	Factor 1 on steel and aluminum p. 6	✓	✓	✓	✓
SIZE	M8	✓	✓	✓	✓
	M12	✓	✓	✓	✓
	M18	✓	✓	✓	✓
	M30	✓	✓		
	C23	✓			
CONNECTIVITY	Connector M12, 4-pin	✓	✓	✓	✓
	Pigtail M12, 3-pin	✓	✓		
	IO-Link 1.1	✓	✓		
ENCLOSURE RATING	IP67	✓	✓	✓	✓
	IP68	✓	✓		
	IP69K	✓	✓		
HOUSING	Embeddable	✓	✓	✓	✓
	One-piece stainless steel housing	✓	✓		
	Stainless steel housing and plastic sensing face			✓	✓

FULL INOX 700 SERIES

FULL INOX (700 SERIES)

FULL INOX HOUSING + DOUBLE OPERATING DISTANCE

COATED

UNCOATED

PART REFERENCE	HOUSING SIZE	HOUSING LENGTH (mm)	OPERATING DISTANCE (mm)	
DW-AS-703-M8-693	M8	60	3	
DW-AS-703-M8-697	M8	66	3	
DW-AV-703-M8-696	M8	45	3	
DW-AV-701-M8-696	M8	45	3	
DW-AS-703-M12-697	M12	60	6	
DW-AV-703-M12-696	M12	50	6	
DW-AV-701-M12-696	M12	50	6	
DW-AS-703-M18-693 *	M18	63.5	10	
DW-AS-703-M18-697	M18	63.5	10	
DW-AV-703-M18-696	M18	50	10	
DW-AV-701-M18-696	M18	50	10	
DW-AS-703-M30-697	M30	63.5	16	
DW-AV-703-M30-696	M30	50	16	
DW-AV-701-M30-696	M30	50	16	
DW-AV-703-C23-696	C23	8	7	
DW-AV-701-C23-696	C23	8	7	
DW-AS-703-M8-673	M8	60	3	
DW-AV-701-M8-692	M8	45	3	
DW-AS-703-M8-694	M8	66	3	
DW-AV-703-M8-695	M8	45	3	
DW-AV-701-M8-695	M8	45	3	
DW-AS-703-M12-673	M12	60	6	
DW-AS-701-M12-673	M12	60	6	
DW-AV-703-M12-695	M12	50	6	
DW-AV-701-M12-692	M12	50	6	
DW-AS-703-M18-673	M18	63.5	10	
DW-AS-701-M18-673	M18	63.5	10	
DW-AV-703-M18-695	M18	50	10	
DW-AV-701-M18-692	M18	50	10	
DW-AS-703-M30-673	M30	63.5	16	
DW-AV-703-M30-695	M30	50	16	
DW-AV-701-M30-695	M30	50	16	

*DW-AS-703-M18-693 tuned for mounting blocks. Fully embeddable only in Steel FE360. For other materials see datasheet.

SENSOR OVERVIEW

	SWITCHING FREQUENCY (Hz)	POLARITY	OUTPUT	CONNECTOR TYPE	SENSING FACE MATERIAL
	15	PNP	N.O. / IO-Link 1.1	M8 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Coated stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Coated stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Coated stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Coated stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Coated stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Coated stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M8 3-pin	Stainless steel V2A
	15	NPN	N.O.	Pigtail M8 3-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Stainless steel V2A
	15	NPN	N.O.	M12 4-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Stainless steel V2A
	15	NPN	N.O.	M12 4-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	M12 4-pin	Stainless steel V2A
	15	PNP	N.O. / IO-Link 1.1	Pigtail M12 3-pin	Stainless steel V2A
	15	NPN	N.O.	Pigtail M12 3-pin	Stainless steel V2A

CLASSICS 600 SERIES

			PART REFERENCE	HOUSING SIZE	HOUSING LENGTH (mm)	OPERATING DISTANCE (mm)
CLASSICS (600 SERIES)	PLASTIC FACE + INCREASED OPERATING DISTANCE	COATED	DW-AS-623-M8-697	M8	66	2
			DW-AS-623-M12-697	M12	60	4
			DW-AS-623-M18-697	M18	63.5	8
		UNCOATED	DW-AS-623-M8-694	M8	66	2
			DW-AS-623-M12-694	M12	60	4
			DW-AS-623-M18-694	M18	63.5	8

OUTSTANDING PROTECTION AT EXCEPTIONAL PRICES

Combining Contrinex's long-established Series 600 sensors with its ground-breaking weld-immune technology gives exceptional protection at outstanding prices. Featuring a robust, temperature-resistant sensing face in a high-strength PEEK polymer and a stainless steel V2A housing, S600 weld-immune sensors are available in both ACTIVSTONE®-coated and uncoated variants.

The exceptionally rugged internal construction of the S600 weld-immune range ensures uncompromising performance in the most demanding welding applications.

Together with an increased operating range (≤ 8 mm), the S600 weld-immune is the first Factor 1 sensor in the Series 600 range, sensing targets in steel and aluminum equally effectively with no adjustment in sensing distance.

UNCOMPROMISING PERFORMANCE

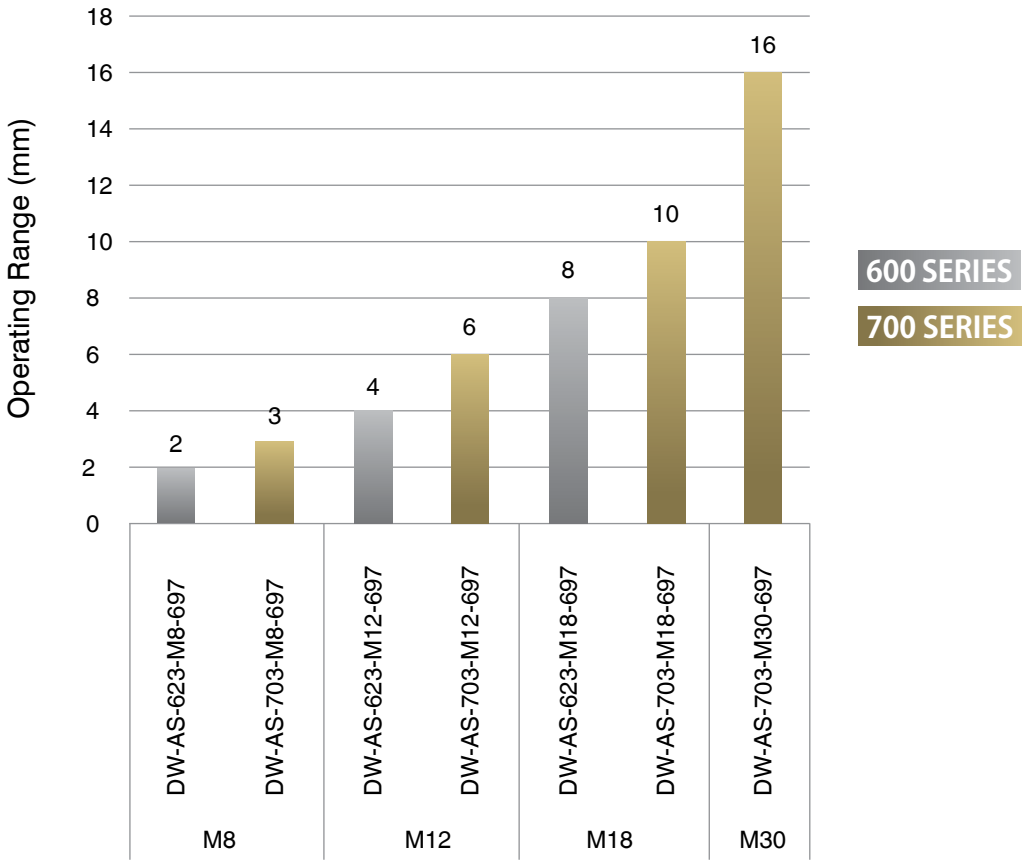
ADVANTAGES OF 600 SERIES

- Increased operating range
- Plastic face: Robust ActivStone®-coated PEEK polymer
- Rugged internal construction for weld-immune S600
- First Contrinex Series 600 sensor with Factor 1 in steel and aluminum
- No adjustment needed for steel and aluminum targets
- Sealed housing IP68 and IP69K

SENSOR OVERVIEW

	SWITCHING FREQUENCY (Hz)	POLARITY	OUTPUT	CONNECTOR TYPE	SENSING FACE MATERIAL	HOUSING MATERIAL
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Coated stainless steel V2A
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Coated stainless steel V2A
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Coated stainless steel V2A
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Stainless steel V2A
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Stainless steel V2A
	15	PNP	N.O.	M12 4-pin	Coated Plastic (PEEK)	Stainless steel V2A

S600 CLASSICS vs S700 FULL INOX OPERATION



With increased operating ranges of up to 8 mm, S600 Classics weld-immune sensors offer size-for-size performance that is directly comparable to their S700 Full Inox counterparts.

ACCESSORIES OVERVIEW

PROTECTION BEYOND THE SENSOR

Reduce downtime with accessories that protect sensors, cables and associated components against the challenges of welding environments. Mounting brackets with ACTIVSTONE® coating resist accumulation of weld spatter and so reduce the need for cleaning. A special range of stainless-steel mounting brackets offers exceptionally high mechanical and chemical resistance.

			PART REFERENCE	MATERIAL	DIMENSIONS (mm)	COMPATIBLE WITH					
						SENSOR SIZE				CLASSICS 600 SERIES	FULL INOX 700 SERIES
						M8	M12	M18	M30		
WELD-IMMUNE MOUNTING BRACKETS	COATED		ASU-0041-80	Steel	L = 35.00 W = 28.60 H = 12.70	✓				✓	✓
			ASU-0041-120	Steel	L = 38.1 W = 34.9 H = 19.05		✓			✓	✓
			ASU-0041-180	Steel	L = 38.1 W = 38.1 H = 25.4			✓		✓	✓
			ASU-0041-300	Steel	L = 44.45 W = 59.94 H = 38.1				✓	✓	✓
	UNCOATED		ASU-3012-080	Stainless steel	SW17 L = 32.4	✓					✓
			ASU-3012-120	Stainless steel	SW22 L = 33.8		✓				✓
			ASU-3012-180	Stainless steel	SW30 L = 33.8			✓			✓

HIGHEST PROTECTION IN WELDING APPLICATIONS

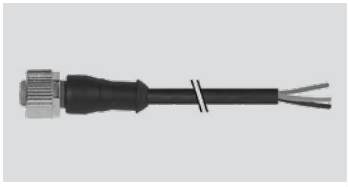
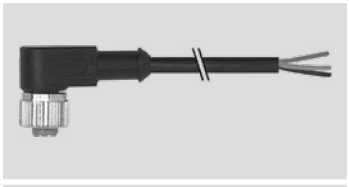
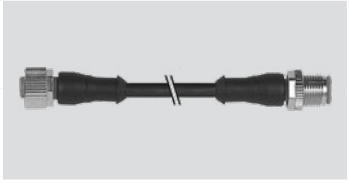
- Direct retrofit for existing mounts
- Faceted face for closer part placement
- Superior clamping force
- Absorbs impacts for enhanced sensor protection
- Greater resistance to spatter adhesion
- Cutaway channel to view sensor LED

ACCESSORIES OVERVIEW

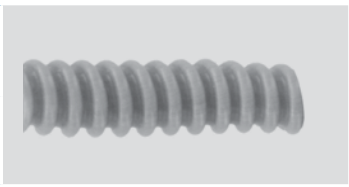
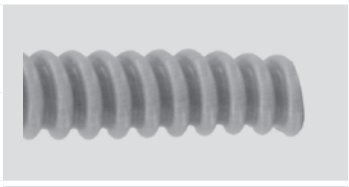
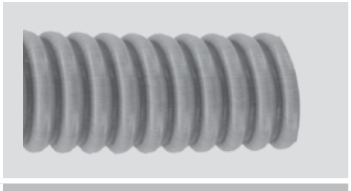
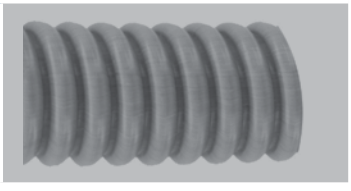
HEAVY DUTY CONNECTING CABLES AND PROTECTIVE TUBES

Long-life cables in spatter-resistant PUR and non-stick high-temperature-rated protective tubes reduce maintenance and improve machine availability. Cables are compatible with all sensors with S12 connector. Protective tubes accommodate one or more cables depending on the cable/tube diameters.

WELD-IMMUNE CABLES

	PART REFERENCE	SOCKET			CABLE	
		SIZE	PINS	CONFIG.	MATERIAL	LENGTH
	S12-3FUG-020-NNWN	M12	3	straight	PUR	2 m
	S12-3FUG-050-NNWN	M12	3	straight	PUR	5 m
	S12-3FUW-020-NNWN	M12	3	right angle	PUR	2 m
	S12-3FUW-050-NNWN	M12	3	right angle	PUR	5 m
	S12-3FUG-020-NNWN-12MG	M12	3	straight	PUR	2 m + M12 plug
	S12-3FUG-050-NNWN-12MG	M12	3	straight	PUR	5 m + M12 plug

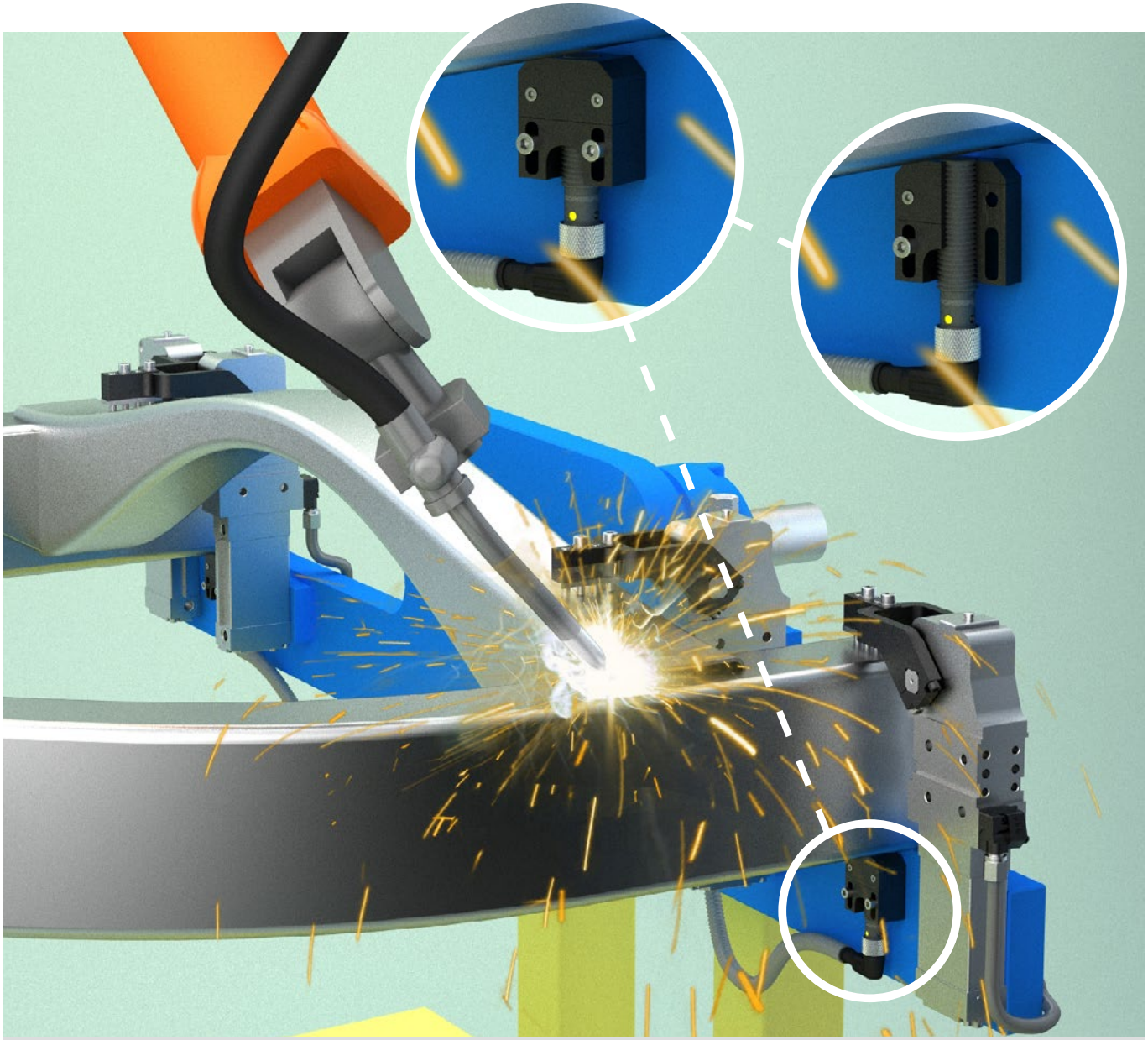
WELD-IMMUNE PROTECTIVE TUBES

	PART REFERENCE	MATERIAL	INNER DIAMETER	OUTER DIAMETER	LENGTH
	APT-0000-010	PTFE	3.5 mm	6 mm	1 m
	APT-0000-100	PTFE	3.5 mm	6 mm	10 m
	APT-0001-010	PTFE	6.5 mm	10 mm	1 m
	APT-0001-100	PTFE	6.5 mm	10 mm	10 m
	APT-0002-100	PTFE	13 mm	17.5 mm	10 m
	APT-0003-100	PTFE	19 mm	23.5 mm	10 m

APPLICATIONS

SPATTER-RESISTANT WELD-IMMUNE SENSORS DELIVER EXCEPTIONAL RELIABILITY AND EXTENDED SERVICE LIFE ON AUTOMOTIVE CHASSIS-WELDING LINES

Automated chassis welding in the automotive sector requires synchronized operation of multiple robots, in complete safety and with minimal human intervention. A misaligned assembly results in damage to the workpiece and potentially one or more robots, but position sensors typically suffer from build-up of welding spatter, causing rapid sensor degradation. Contrinex Weld-Immune inductive sensors with a high-performance ceramic coating are especially resistant to weld spatter and provide a robust, low-maintenance sensing solution with a best-in-class service life.



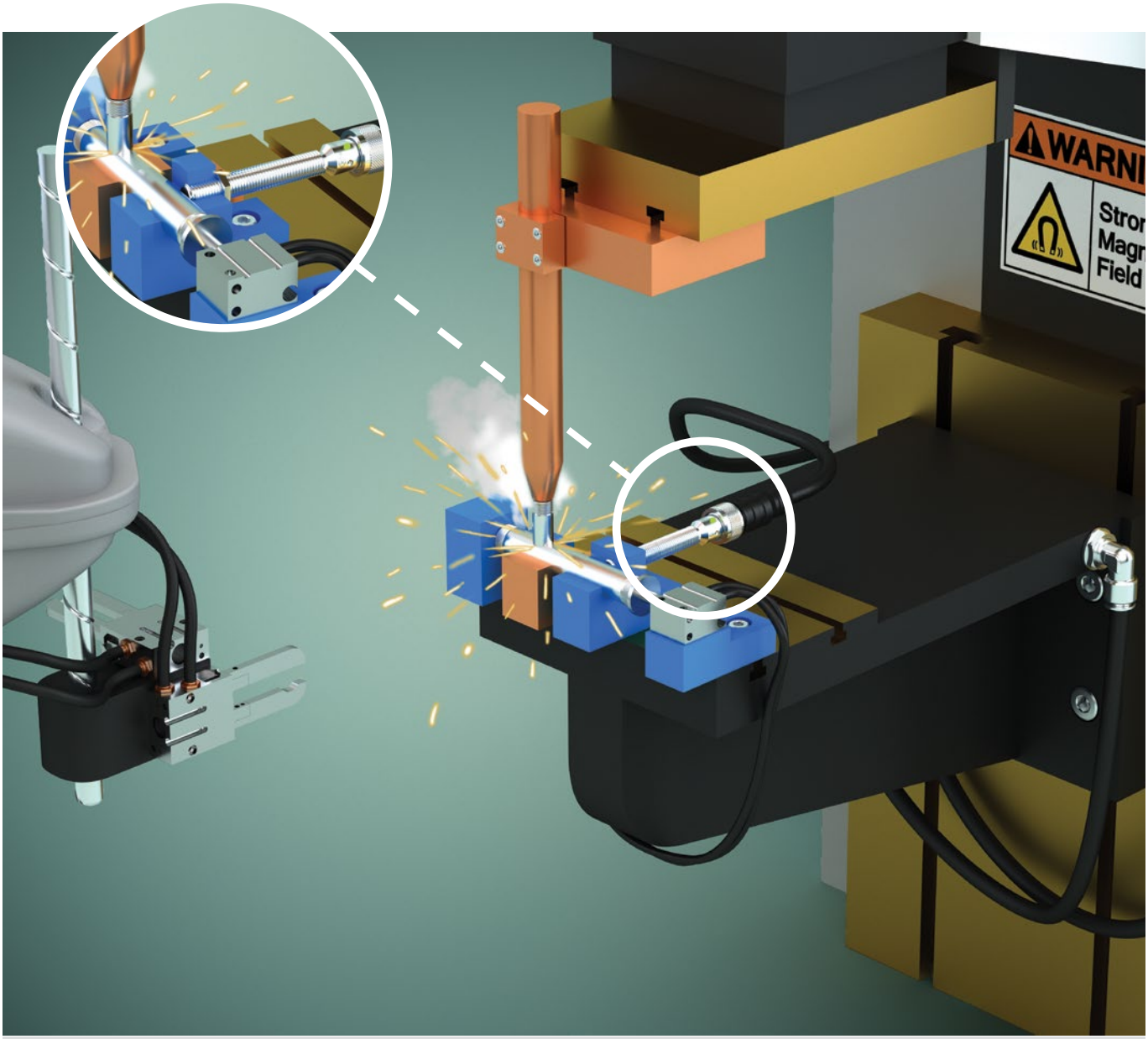
CUSTOMER BENEFITS

- ✓ Rugged inductive sensors ensure accurate positioning of assemblies and components, eliminating welding rejects and equipment damage
- ✓ High-performance ACTIVSTONE® ceramic coating prevents spatter accumulation and inhibits sensor-performance degradation
- ✓ Extended service life as ACTIVSTONE® withstands frequent and aggressive cleaning regimes
- ✓ Weld-Immune sensors provide immunity to electromagnetic interference, in particular from medium-frequency weld fields
- ✓ Industry-standard IO-Link connectivity provides a single interface to the machine control system
- ✓ Proven technology ensures highly reliable operation with extended service life and minimum down-time

APPLICATIONS

FACTOR 1 WELD-IMMUNE SENSORS OFFER OUTSTANDING PROTECTION AT EXCEPTIONAL PRICES DURING MF RESISTANCE WELDING OF ALUMINUM ASSEMBLIES

The strong magnetic fields generated by industrial spot welders cause unprotected sensors to malfunction or fail. To prevent misalignment during assembly, a valve manufacturer requires inductive proximity sensors that withstand the exceptionally high currents needed to weld aluminum parts. Contrinex S600 Weld-Immune inductive sensors are immune to electro-magnetic interference and sense targets in steel and aluminum equally effectively. Highly reliable and robust, they provide a cost-effective solution with a best-in-class service life.



CUSTOMER BENEFITS

- ✓ Rugged inductive sensors ensure accurate positioning of aluminum components, eliminating assembly rejects and minimizing downtime
- ✓ Weld-Immune sensors provide immunity to electromagnetic interference from 50 Hz and medium-frequency weld fields
- ✓ Exceptionally high currents needed for welding aluminum do not inhibit accurate detection of targets
- ✓ Factor 1 sensors require no reduction in sensing distance for aluminum targets, reducing the chance of accidental collisions
- ✓ Proven technology ensures reliable operation with extended service life and minimal down-time
- ✓ Optional addition of high-performance ACTIVSTONE® ceramic coating prevents spatter accumulation and inhibits sensor-performance degradation







WHY CHOOSE US

- ✓ Technology leader for sensors and systems in the most challenging operating conditions
- ✓ Partner to the welding industry for over 20 years
- ✓ Building industrial experience since 1972
- ✓ Widest IO-Link portfolio – ready for Industry 4.0 since 2009
- ✓ Most reliable sensors on the market with best temperature compensation and highest quality materials
- ✓ Technical mastery of key elements – with our own ASIC development
- ✓ Global sales network with solution-oriented application support
- ✓ Impeccable Swiss quality for our products and systems

WHAT WE OFFER

- ✓ 5 production sites for fast, worldwide availability
- ✓ 3 logistic hubs for rapid delivery – even for special products
- ✓ International Customer Services
- ✓ Long-standing experience in product customization and brand labelling
- ✓ Vigorous lab testing, pre-shipment inspections and compliance with international and market standards

KEY DATES

1999 Inductive sensors with world's most robust full-metal housing, thanks to Condet® technology

2013 Contrinex suppression-circuit technology for inductive sensors in welding applications

2019 Weld-spatter-resistant coating for sensors and accessories

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HEADQUARTERS

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