SENCON
SENSING • TESTING • GAUGING

Short Can Sensors

For short can detection in DWI can bodymakers

Metal discrimination sensors designed specifically for short can detection in the demanding bodymaker tooling environment. These high efficiency sensors detect the can, yet remain totally blind to the punch. The sensors employ special encapsulants, sealed cases and custom-fabricated metallic end plates to withstand hydraulic abrasion and provide maximum durability with long service life.





- **Detects the can not the punch**
- **Greatly improved R&R - better process control**
- **Optimum tooling and machine protection**
- **Maximum reliability, minimum down time**
- **Long lasting rugged construction**

SENSORS FOR ALL PUNCH MATERIAL TYPES

287 SERIES

Original

The original 287 series short can sensors for aluminum cans over magnetic carbide punches are still available and are the obvious choice for straightforward like-for-like replacement.

For paramagnetic carbide punches or If you encounter detection issues, we recommend upgrading to the 487 short can sensor. The 487 is a modern alternative which optimizes the sensor to the specific punch's magnetic properties rather than to a generic target material.

487 SERIES

287 replacement

The 487 series short can sensor offers an easy upgrade path for 287 series sensors with its case design similar to the 287. It can be wired directly to the press control system without the need for a control module.

The sensor is optimized to a specific punch in the bodymaker using a push button or client software. Additionally, the sensor has diagnostic software for ease of setup, running confidence, and fault diagnosis.

387 SERIES

First choice

The 387 series sensors are designed to cope with a wide range of punch materials, including ceramics and nickel based carbides and are the first choice for new applications.

The 387 short can sensors are used with a separate control module which interfaces with the press control system. The client software provides setup, punch optimization and fault diagnostics.

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287 SERIES

These high efficiency Short Can Sensors detect each can, yet remain totally blind to the punch. Using positive discrimination methods and 'zero-drift' detection, these sensors provide reliable detection of short cans or 'tear-offs' to protect your tooling investment. All 287 Series short can sensors are equipped with both source (PNP) and sink (NPN) outputs, and they are supplied complete with mounting nuts.

PERFORMANCE UPGRADE: The 287 series short can senors perform reliably on the majority of carbide punches, provided the magnetic permeability of the punch material remains stable in working conditions (factors such as temperature variation can affect magnetic properties). Combinations of can stock, light weighting and the latest generation of punch materials may cause detection issues, in which case Sencon recommends upgrading to the 487 series short can sensors.

Ordering Information

CODE	MATERIAL	PUNCH MATERIAL	CASE	CABLE TYPE	CONNECTION	REPLACEMENT
9-287-03	Aluminum	Magnetic Carbide	G	Integral cable	sink(PNP) / source(NPN)	9-487-01
× 9-287-63*	Aluminum	Magnetic Carbide	G	Integral cable	sink(PNP) / source(NPN)	**9-287-03, 9-487-01**
11-287-03	Aluminum	Magnetic Carbide	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)	11-487-00
× 11-287-63*	Aluminum	Magnetic Carbide	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)	**11-287-03, 11-487-00**
× 9-287-33•	Aluminum	Paramagnetic Carbide	G	Integral cable	sink(PNP) / source(NPN)	**9-487-01**
× 11-287-33•	Aluminum	Paramagnetic Carbide	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)	**11-487-00**
× 9-287-53•	Aluminum	Non-Magnetic Carbide	G	Integral cable	sink(PNP) / source(NPN)	**9-487-01**
× 11-287-53•	Aluminum	Non-Magnetic Carbide	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)	**11-487-00**

PLEASE NOTE: All 11 series sensors are supplied without a cable.
*The -63 sensors are obsolete and can be directly replaced with the -03 which has the same specification. Alternatively you can upgrade to the 487 series short can sensors.
•33/53 sensors are obsolete and have been replaced with the 487 series short can sensors.

487 SERIES

- **Simple cable connection, can be wired directly to the press control system – no control module needed**
- **Standard sensor case design similar to 287 series sensors**
- **Optional client software allows the sensor to be interrogated and set up via PC**
- **The Punch Discrimination Packs (PDP) can be selected via a push button connected to the sensor cable**

PUNCH OPTIMIZATION: 487 series sensors can be optimized to a specific punch in the bodymaker via push button or client software, this optimizes the sensor to the specific punch's magnetic properties and mounting distance. Instead of having a specific sensor which is calibrated during manufacture to a generic target material, the 487 can be optimized to the unique set of circumstances for each bodymaker.

DIAGNOSTIC SOFTWARE: The optional client software allows easy set-up and fault diagnosis. The interface displays punch signal information which enables ease of installation, running confidence, and fault diagnosis.

FIELD UPDATES: The 487 can be field updated with "Punch Discrimination Packs" (PDPs); software packs that enable the sensor to work with different punch materials. This offers canmakers the opportunity to buy once and remain flexible to tooling changes in the future.

Ordering Information

CODE	MATERIAL	PUNCH MATERIAL	CASE	CABLE TYPE	CONNECTION
9-487-01	Aluminum	Switchable for any carbide punch material	L	Integral cable	Push/Pull
11-487-00	Aluminum	Switchable for any carbide punch material	G	Quick disconnect Micro M12 5 Pin	Push/Pull

PLEASE NOTE: All 11 series sensors are supplied without a cable.

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387 SERIES

These sensors are used with a Sensor Control Module (SCM387) which communicates with the press control system to discriminate between aluminum can stock and a range of punch materials, including ceramics and nickel based carbides.

- **Copes with a wide range of carbide punch materials**
- **Calibrates to punch material when new punch is fitted**

OVERCOMING DIFFICULT PUNCH MATERIALS: Aluminum can stock is extremely difficult to detect on nickel carbide punches because the electromagnetic signatures are very similar. The 387SCT 'smart' sensor is ideal for this situation because it has a built in microprocessor that reads and stores the signal profile of each new punch fitted to the bodymaker.

Ordering Information

CODE	MATERIAL	PUNCH MATERIAL	CASE	CABLE TYPE	CONNECTION
11H-387SCT-S1	Aluminum	Calibrates to any carbide punch material	I	Quick disconnect Dual Key	From Module
9H-387SCT-56-77	Aluminum	Calibrates to any carbide punch material	I	Integral cable	From Module
11R-387SCT-M12DC*	Aluminum	Calibrates to any carbide punch material	I	Quick disconnect Micro M12 5 Pin	From Module

PLEASE NOTE: All 11 series sensors are supplied without a cable.
*The 11R-387SCT-M12DC is a 387SCT sensor that has a short built-in cable terminated with a micro M12DC (5pin single key) plug. This allows the connector to be placed outside the bodymaker's wet area. It also offers the dual benefits of an encapsulated cable on the sensor itself plus a quick-disconnect connector.

Optional Extras

CODE	ITEM	DESCRIPTION
SCM387	Sensor Control Module	The SCM387 interfaces Sencon 387 series Short Can Sensors with the bodymaker control system.

267-03

The 267-03 short can sensors are perfect for can plants manufacturing **steel cans using carbide punches.**

Ordering Information

CODE	MATERIAL	PUNCH MATERIAL	CASE	CABLE TYPE	CONNECTION
9-267-03**	Steel	Carbide	L	Integral cable	sink(PNP) / source(NPN)
11-267-03**	Steel	Carbide	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)
9-247-03**	Aluminum	Steel	G	Integral cable	sink(PNP) / source(NPN)
11-247-03**	Aluminum	Steel	H	Quick disconnect Micro M12 4 Pin	sink(PNP) / source(NPN)

PLEASE NOTE: All 11 series sensors are supplied without a cable.
**These models are also available with an output pulse stretcher (See Can-on-Mandrel and High Performance Sensors)

247-03

The 247-03 short can sensors are the ideal choice for can plants manufacturing **aluminum cans using steel punches.**

SENSOR CABLES

Ordering Information

CODE	ITEM	DESCRIPTION
706-05015-05	Cable	5 m (16ft) Cable self securing with straight connector
QDC-6F-4S	Cable	2 m (6ft) Cable with straight connector
QDC-16F-4S	Cable	5 m (16ft) Cable with straight connector
QDC-32F-4S	Cable	10 m (32ft) Cable with straight connector
QDC-6F-4R	Cable	2m (6ft) Cable with right angled connector
QDC-16F-4R	Cable	5 m (16ft) Cable with right angled connector
QDC-32F-4R	Cable	10 m (32ft) Cable with right angled connector
QDC-16F-5S	Cable	5 m (16ft) Cable with straight connector
QDC-20F-5S	Cable	6 m (20ft) Cable with straight connector for use with 11H-387SCT-S1

Other cable lengths and connector styles are available, please contact your local Sencon sales office for details.

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MAXIMUM RELIABILITY, MINIMUM DOWN-TIME: Sencon Metal Discriminating Sensors are fully encapsulated in non-hygroscopic materials and are designed to be highly resistant to shock, vibration, coolant oils and humidity. They also employ custom-fabricated titanium sensing face protection plates to withstand hydraulic abrasion and provide maximum durability in the demanding bodymaker tool environment.

With no need for adjustment or monitoring, Sencon Short Can Sensors keep machine downtime and maintenance needs to a minimum and so help to promote optimum productivity.

EXTENSIVE TESTING: Sencon has extensively tested and evaluated carbide wall-ironing punches. These punches use various binder materials—most commonly nickel and cobalt, as well as other elements such as chromium and iron — to obtain the desired mechanical properties for the punch. The mixtures and compositions of these materials impart differing magnetic properties to the finished punch tooling.

An increasingly diverse range of punch types is now available, and material compositions often display subtle variations which may affect short can detection capability.

SCM387

The SCM387 control module brings extra functionality including waveform visualization to 387 short can sensors.

The SCM387 is a drop-in replacement for existing installations, replacing BCM387 bodymaker control and Interface control modules. The optional client software provides technicians with comprehensive diagnostic information which can aid in troubleshooting problems.



WORLDWIDE SUPPORT YOU CAN TRUST

We are committed to providing the best customer support worldwide with service engineers based in North and South America, Europe and Asia backed up with technical support from experienced industry specialists based at three technical support centers – you can trust Sencon.

Technical support is easily accessible through our ‘Quick Assist’ QR codes which offer support via WhatsApp*, email, web chat and telephone. Additionally, our online knowledge base provides support resources for all Sencon products.

***only available in Europe, Asia, Africa and Oceania**



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