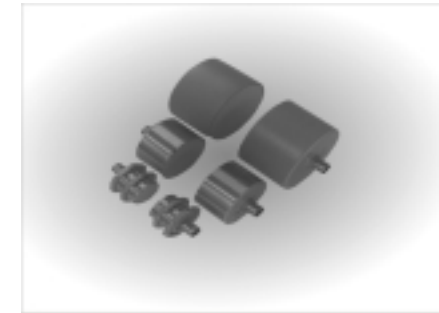
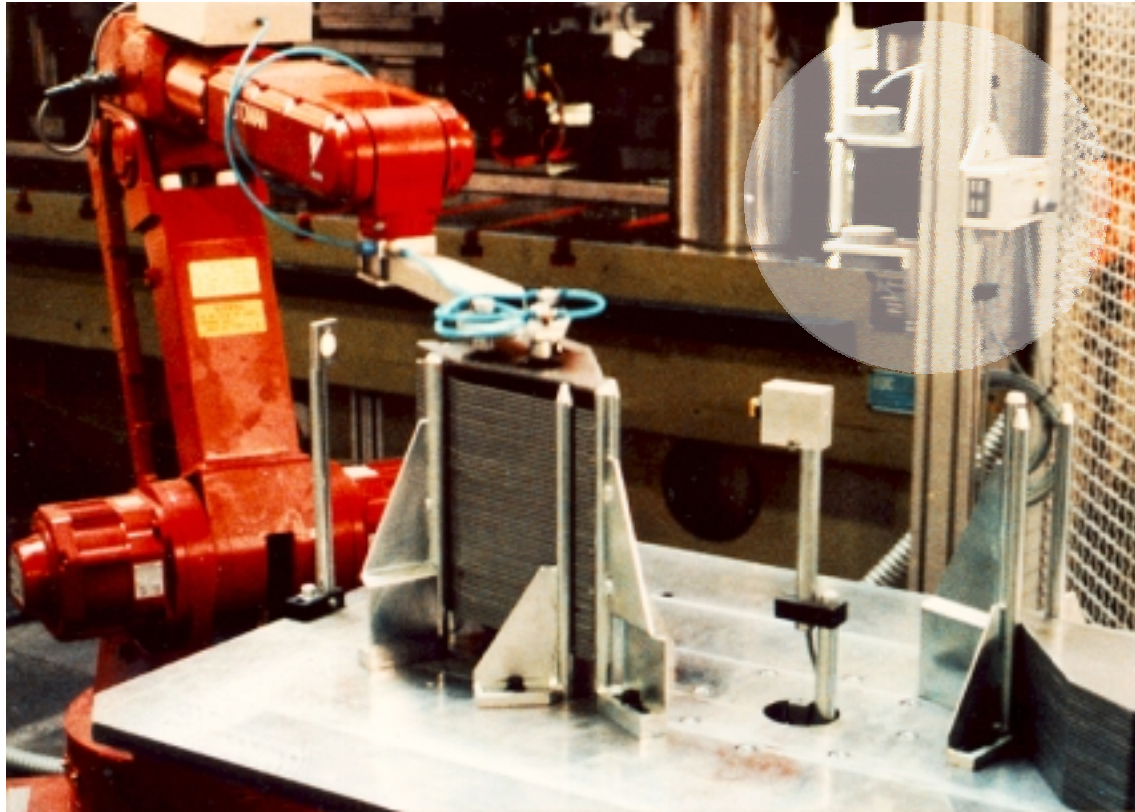




Content	Page
Introduction	2
Type Overview	3
Digital sensors, single-sided magn. Steel	4
Digital sensors, both-sided magn. Steel / Aluminium	5
Digital sensors, single-sided non-magn. Steel	6
Digital sensors, both-sided non-magn. Steel	7
Analog sensors, single-sided magn. Steel	8
Analog sensors, both-sided magn. Steel / Aluminium	9
Analog sensors, single-sided non-magn. Steel	10
Analog sensors, both-sided non-magn. Steel	11
Sensor cable	12

All rights reserved, dates and specifications may change without notice.
Disclaimer: All information is given in good faith but without warranty.



Double Sheet Sensors monitor the sheet separation on automatic metal sheet- destackers, - robots, -feeders, -handling equipment etc.



Fig.1. These sensors are useful for low price and simply double sheet/ double blank detection. All functions

are integrated into the sensors. No additional, external amplifiers controllers or switching boxes are necessary. The sensors are for 24 VDC supply designed. We deliver digital sensors with 2 transistor output switches with teach -in programmable sheet thickness limits and also analog sensors with sheet thickness relatet analog voltage outputs from 0 - 10 VDC. These analog sensors may be used in connection with PLCs or IPC controllers that have 0- 10 VDC sensor inputs. In this configuration the PLC / IPC many be programmed according the the sheet working machines / process features as simple double sheet detector with one ore more fixed or adjustable local (operator- panel) or remoted thickness limits, as sheet thickness comparator, thickness limit switch and so on.The sensors are connected via a M 12 x 1 male connector for 24 VDC supply , the 2 digital outputs or the 0- 10 VDC analog voltage output. There are single sided, sheet touching sensors for magnetic and non magnetic (stainless-) steel sheets as well as both sided, touch less sensors for magnetic- , non- magnetic-, aluminum and other non-ferrous metal sheets available.

Fig. 1. shows an example for a single side sensor fixed closed to a vacuum gripper of a sheet de-stacker to watch these stages: Vacuum gripper / sensor on top of stack: Stack present / last sheet on stack / no sheet on stack anymore ? Vacuum gripper / sensor lift off from stack: No sheet -/ single sheet- / double sheet picked up ? During sheet feed: Sheet still present / sheet lost? Sheet target: Sheet successful placed / released ?



Safety- information: The double sheet detector sensor is often used for stopping/ interrupt sheet transfers or sheet working machines. After removing the (double) sheets from the sensor(s) the sensor output switches back in the no sheet / one sheet position. The control circuit must work so that the transfers / machines do not restart automatically to avoid dangerous situations.

Sensor arrangements:

Fig.2 Sensor position single sided sensor related to the sheet edges.

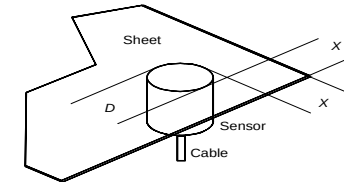
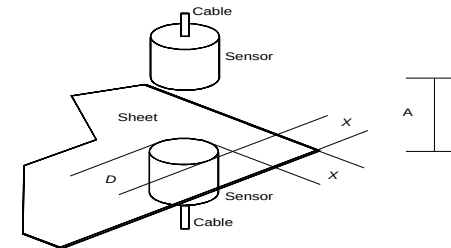


Fig.3 Sensor position both sided sensors related to the sheet edges. Keep X constant if X is smaller than the sensors diameter D.



Sensor connection

Fig.4 Connection example for digital sensors with sheet thickness teach-in programming on a PLC

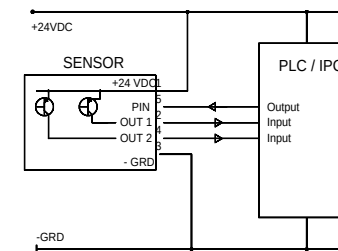
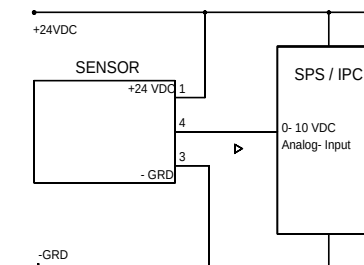


Fig.5 Connection example for analog sensors with 0- 10 VDC output on a PLC with 0- 10 VDC analog input.





1. Digital sensors with transistor switch output										
Sheet material *1)	Steel (magnetic, ferritic)				Steel (magnetic/ ferritic) + Aluminium			Stainless steel (non- magnetic, austenitic)		
Sheet monitoring	Single sided, sheet touching				Both sided, touch less			Single sided, sheet touching		Both sided, touch less
Single sheet thickness (mm)	0,5	1	2	3	0,8	1,5	3	1,5	3	3
Sensor- Type *2)	S 0.5P4S	S 1.0P3S	S 2.0P3S	S 3.0P3S	SIZ 30PSS+ SIZ 30P3SE	SIZ 54PSS+SIZ 54P3S	SIZ 75PSS+SIZ 75P3SE	SIE 1.5P3S	SIE 3.0P3S	SIE 30RSS+SIZ30P3SE
Data page	4				5			6		7
Sensor- fig.										

2. Analog sensors with 0 - 10 VDC analog voltage output										
Sheet material *1)	Steel (magnetic, ferritic)				Steel (magnetic, ferritic) + Aluminium			Stainless steel (non- magnetic, austenitic, INOX)		
Sheet monitoring	Single sided, sheet touching				Both sided, touch less			Single sided, sheet touching		Both sided, touch less
Single sheet thickness	0,5	1	2	3	0,8	2	3,0	2	4	3
Sensor- Type *2)	S 0.5AS	S 1.0AS	S 2.0AS	S 3.0AS	SIZ 30PPS+ SIZ 30AS	SIZ 54PSS+SIZ 54AS	SIZ 75PSS+SIZ 75AS	SIE 2.0AS	SIE 4.0AS	SIE 30RSS+SIZ30AS
Data page	8				9			10		11
Sensor- fig.										
*1) Please inquire for other sheet materials. *2) Many other sensors- types available, please ask.										



Short form Catalogue only

**To get the whole catalogue, please
sent us a message**



Jungmichel

Industrietechnik GmbH

Waldpark 7

75239 Eisingen/ Germany

Tel.: 07232 8740

Fax: 07232 8407

info@jungmichel.de

www.jungmichel.de

UST/VAT Nr.: DE 144118743

Handelsregister: Mannheim HRGB Nr.: 502858

Geschäftsführer: Herwig Jungmichel

St.-Nr.: 41409- 50857