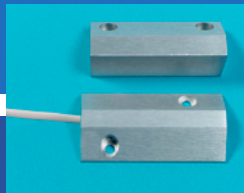


Magnetic Contacts - Front Line Detectors



Our speciality

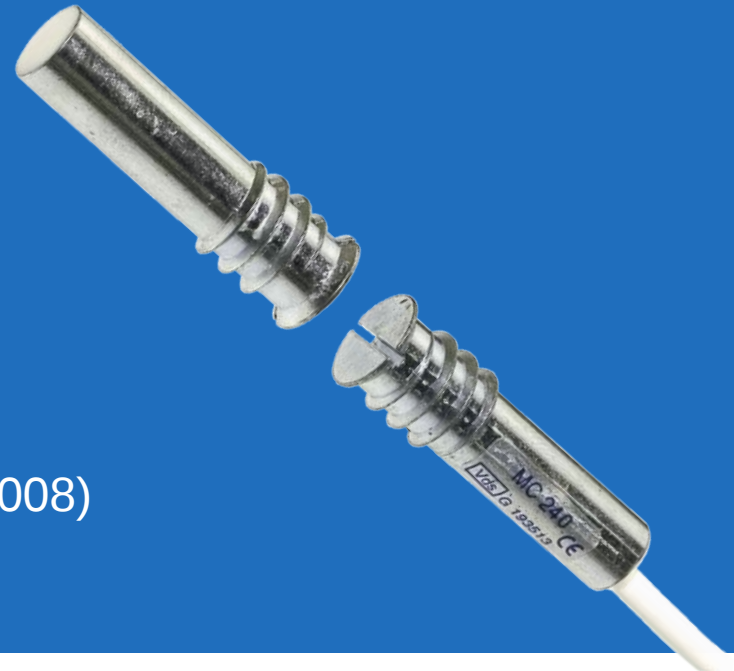
- ❖ Front line detectors
- ❖ High security detectors
- ❖ Detector classes:
 - ❖ Magnetic Contacts
 - ❖ Glass Break Detectors:
 - ❖ Glued for float glass
 - ❖ Glued for float and laminated glass
 - ❖ Acoustic for float and laminated glass
 - ❖ Vibration Detectors
 - ❖ Shock
 - ❖ Seismic

***The goal for front line detectors:
detect intruder before
penetration of object***



Magnetic Contacts

- ❖ Magnetic Contacts:
 - ❖ Wide choice of products – 6+ main series
 - ❖ Wide choice of accessories
 - ❖ Production on demand
 - ❖ Built-in EOL resistors
 - ❖ Different cable length
 - ❖ High security products
 - ❖ VdS Klasse C
 - ❖ EN grade 2 and 3 (EN 50131-2-6:2008)
 - ❖ S class TECHOM (Poland)



How to get reliable contact?

Q: Why Magnetic contacts on the program?

A: Every installation need one or more contacts because it is cheap, the function is simple and it is easy to use in a great variety of applications.

Q: What to think on selecting a contact?

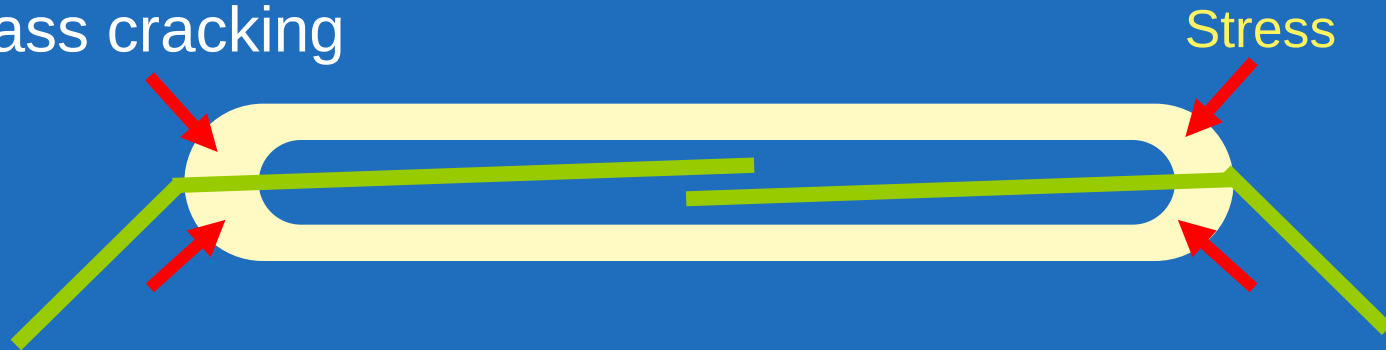
A: **The reed**



Quality issue of magnetic contacts

Main problem areas in reed switches:

A. Glass cracking



B. Contact surface and contact space purity and durability



Minimum life expectancy:

Conditions	Reed switch in MC	Regular „low-cost” reed switch
1V, 10mA	$> 1000 \cdot 10^6$	$> 100 \cdot 10^6$
10V, 10mA	$> 500 \cdot 10^6$	$> 10 \cdot 10^6$
12V, 10 μ A (worst case)	$> 20 \cdot 10^6$	Not specified - not tested

Tested by VdS

Quality issue of magnetic contacts

Choice of magnets:

	Material	Energy Product Maximum	Maximum Working Temperature	Machinability	Resistance to demagnetization	Relative Cost
NdFeB	NdFeB	45 MGOe	180 °C	Fair	High	High
	NdFeB (Bonded)	10 MGOe	150 °C	Good	High	High
Ferrites	Sm-Co	32 MGOe	300 °C	Difficult	Very High	Very High
	Ferrite	4 MGOe	300 °C	Fair	Moderate	Low
AlNiCo	Rubber Magnet	1.5 MGOe	100 °C	Easy	Low	Low
	Alnico	10 MGOe	550 °C	Difficult	Low	Moderate

Quality issue of magnetic contacts

Neodymium magnets NdFeB

- Advantages:
 - very strong magnetic field,
 - small magnets (embedded assembly)
 - short magnets
 - high resistance against demagnetization
- Disadvantage:
 - expensive material

Ferrite magnets

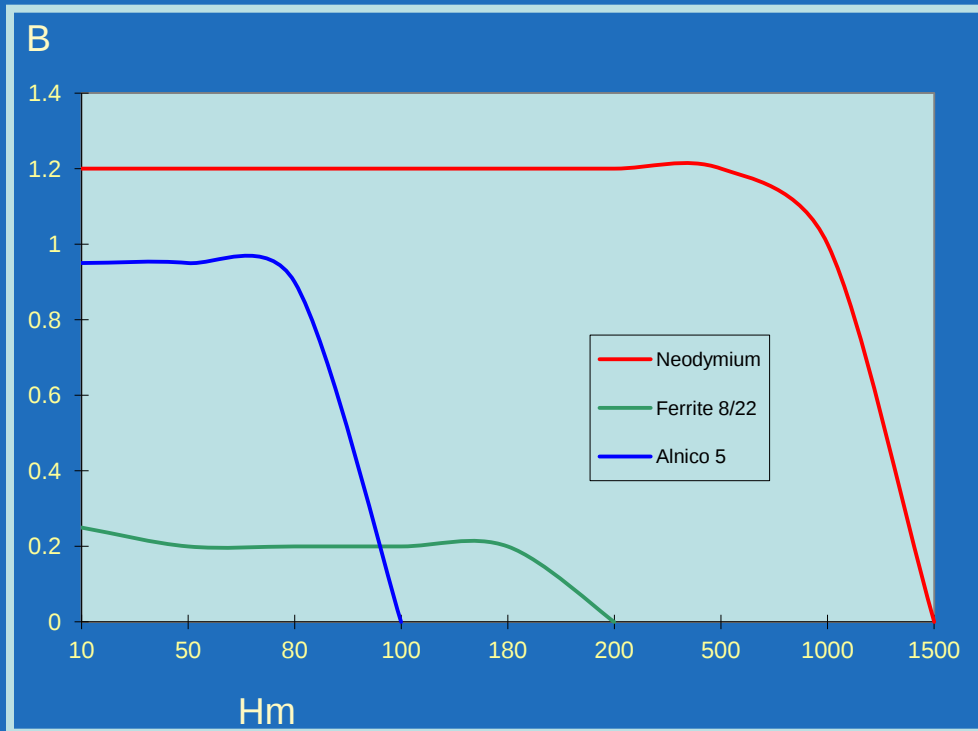
- Advantage: - low cost material
- Disadvantage: - weak magnetic field requires big magnets

AlNiCo magnets

- Advantages:
 - strong magnetic field
 - long magnets provide wide gaps in parallel assembly
 - high resistance to demagnetization
- Disadvantage:
 - high cost

Quality issue of magnetic contacts

Magnetization curve



Magnets are sensitive to:

- Shocks

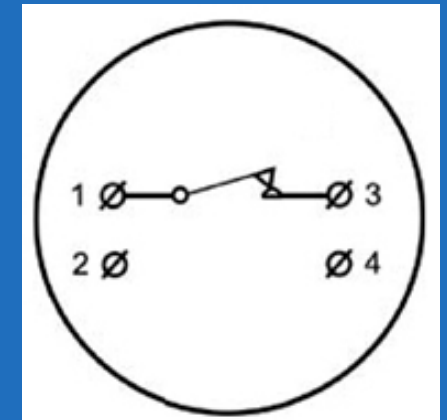
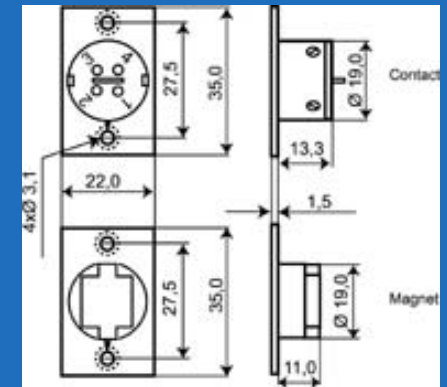
NEVER-EVER hammer magnets!

- Temperature

Provide lower gap between magnet and contact in low temperatures

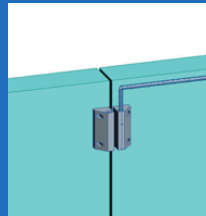
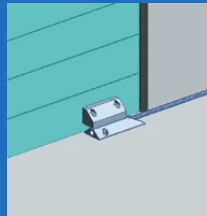
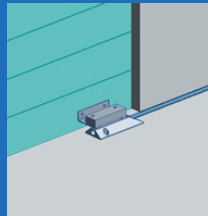
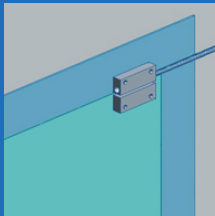
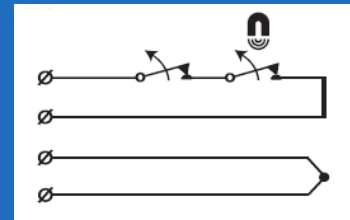
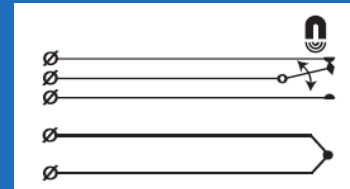
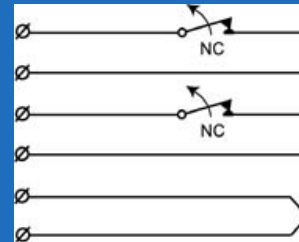
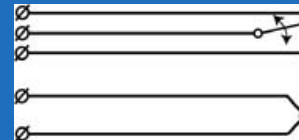
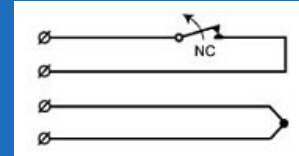
MC 100 series

- Recessed assembly
- Screw terminals with wire protection



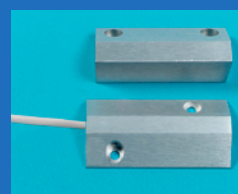
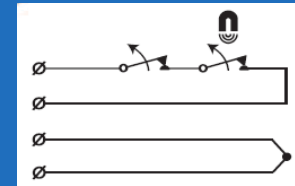
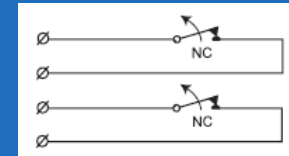
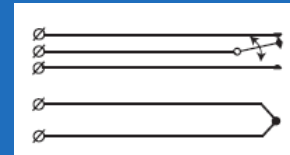
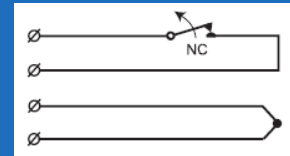
MC 200/200+ series

- Universal magnetic contact
- Encased in a metal screw
- Recessed and surface assembly
- High security version
- Wide choice of accessories



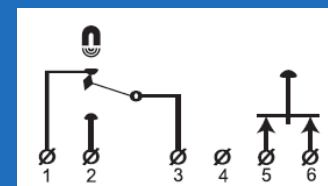
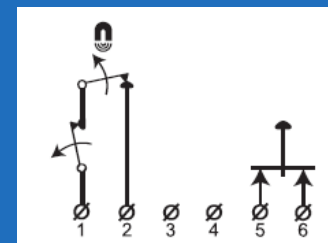
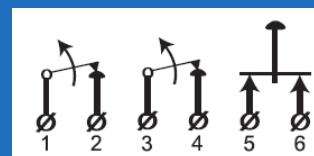
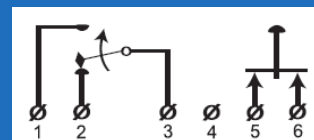
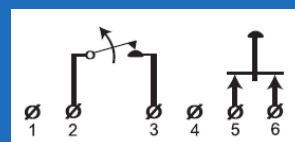
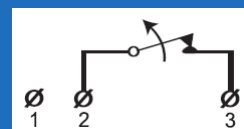
MC 300/300+ series

- Universal applications
- Encased in a plastic ABS cylinder
- Recessed and surface assembly
- High security version
- Wide choice of accessories



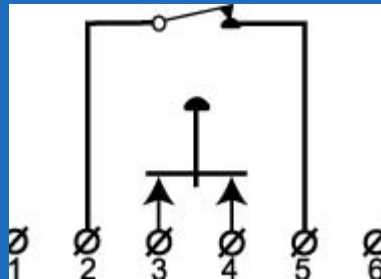
MC 400/400+ series

- Surface mount applications
- Screw terminals with wire protection
- High security version
- Wide choice of accessories



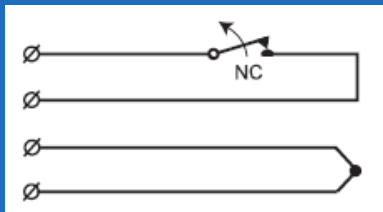
MC 500 series

- Surface mount applications for windows and doors
- 6 screw terminals with wire protection



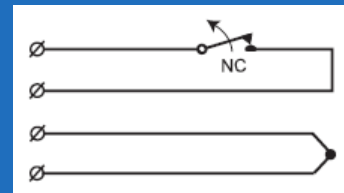
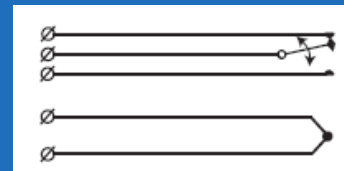
MC 600 series

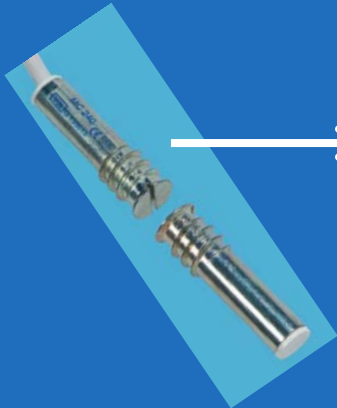
- Pair of mounting flanges
- Applications in prefabricated holes of doors and windows



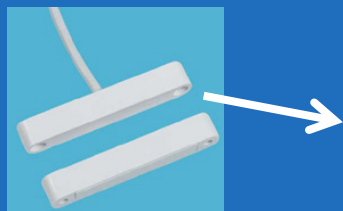
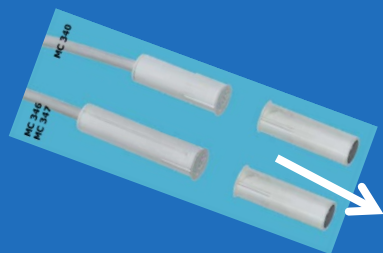
MC 700 series

- Surface assembly in tight places
 - Slots
 - Detection of open drawers in cash registers
 - Protection of windows with tight profiles
 - Protection of door and windows made of tight aluminium profiles
- Available configurations:
NC, switch-over, EOL, 2EOL
- Easy and quick installation





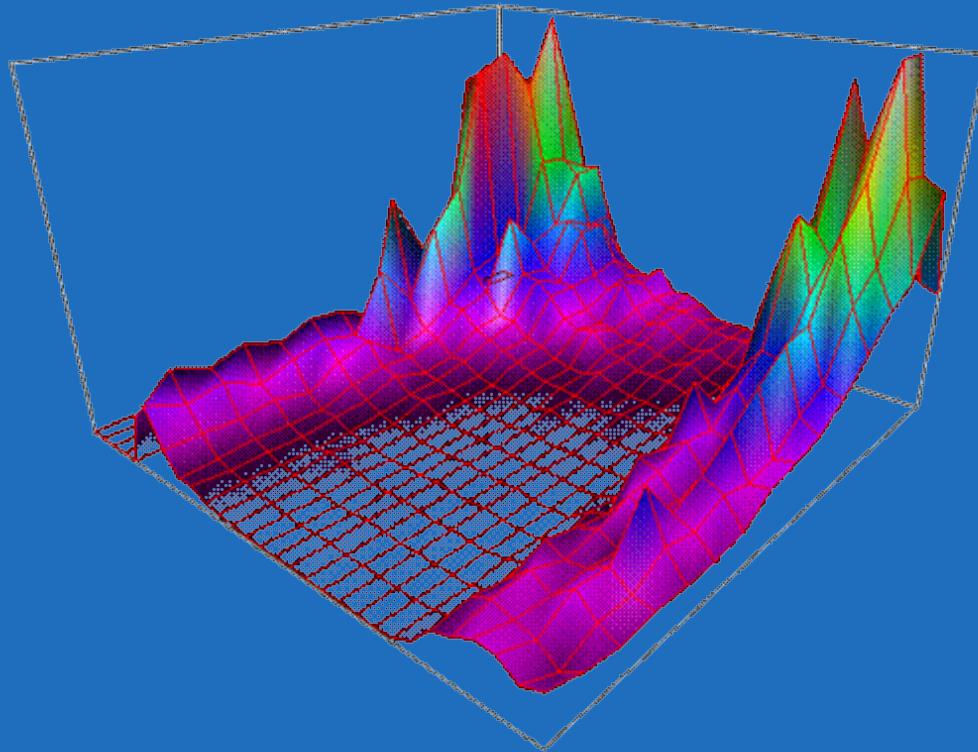
Detector	DE	EU	BE	PL	RU
	VdS	EN	INCERT	Techom	GOST R
MC 140		2	✓		
MC 240 ap up	B	2	✓	C	✓
MC 246		2	✓		✓
MC 247		2	✓		
MC 250 up	B	2	✓	C	✓
MC 250-M14	B	2	✓		✓
MC 270 up	C	3	✓	S	✓
MC 272		3	✓	S	✓
MC 340 ap	B	2	✓	C	
MC 340 up	B	2	✓	C	



Detector	DE	EU	BE	PL	RU
	VdS	EN	INCERT	Techom	GOST R
MC 346		2	✓		
MC 347		2	✓		
MC 370 up	C	3	✓	S	
MC 440		1	✓	C	✓
MC 446		2	✓		✓
MC 447		2	✓		
MC 470		3	✓	S	✓
MC 472		3	✓	S	✓
MC 540		2	✓		
MC 640 ap up	B	2	✓		
MC 740		2			



Thank you for your attention



Alarmtech R&D team