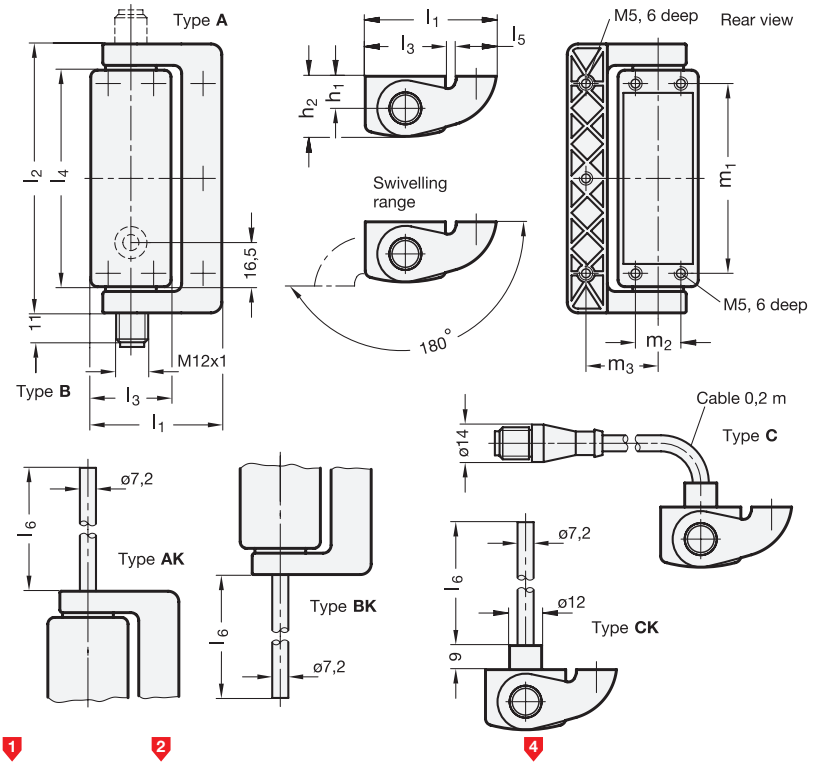
Hinges with safety switch



3 Type

A	Connector plug at the top
B	Connector plug from the bottom
C	Connector plug at the back, (with 0,2 m cable)
AK	Connector cable at the top
BK	Connector cable from the bottom
CK	Connector cable at the back

1 l_1 small hinge wing	l_1 broad hinge wing	2 l_2	l_3	l_4	l_5 small hinge wing	l_5 broad hinge wing	4 l_6 Cable length in meter Type AK / BK / CK		h_1	h_2	m_1	m_2	m_3 small hinge wing	m_3 broad hinge wing
49	79	101	30	81	15	30	2	5	12	22,5	71	17	27	50

Specification

- Zinc die casting
  plastic coated
  silver metallic
- Pin
  Stainless Steel AISI 303
- RoHS compliant

Accessories

- Cable with connection coupling
  8-pin, 5 and/or 10 meter long:
  - GN 330-M12x1-8-G-5
  - GN 330-M12x1-8-G-10
- Mounting plates GN 139.3 / GN 139.4

On request

- Hinges with operation angle > 0°
- Hinges with other contact terminations

Information

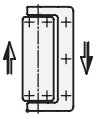
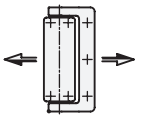
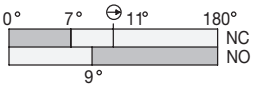
Hinges GN 139.1 with integrated safety switches have been designed for monitoring doors and covers of machines and plants. Opening the door will activate the switch contacts which, in turn, will then e.g. interrupt a protective circuit via break contact (NC) and at the same time signal the door opening by closing a normally open contact element (NO). The contact blocks are fitted with positive opening slow-action contacts, i.e. they will definitely be separated when activated and have no hysteresis. The angle at which the switching points are reached are adjustable (see contact travel diagram).

Together with the integrated contact blocks, the hinges are a compact, easy to mount unit with an attractive design. The mounting from the back make the hinge more tamper-proof.
Hinges **GN 139.2** without switching function act as additional hinges e.g. for larger doors or gates where several hinges are required.

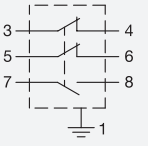
Hinge with safety switch		
1 2 3 4 GN 139.1-49-101-AK- 5	1	l_1
	2	l_2
	3	Type
	4	l_6

Hinge without safety switch		
1 2 GN 139.2-79-101	1	l_1
	2	l_2

Mechanical features

Maximum load Information with safety factor Examples of calculation → *see operating instruction*		L_A 	L_{R0} 	L_{R90} 
	I_1 = 49	1500 N	1000 N	1000 N
	I_1 = 79	750 N	500 N	500 N
Fixing	from the back, 7 x threads M5, 6 mm deep			
Recommended torque	5 Nm (Screws M5)			
Protection class	IP67 (Type A / B, connector on the housing) IP69K (Type AK / BK / C / CK, with connector cable)		acc. to EN 60529	
Switching principle, contact opening	Slow-action contacts force-fitted, with positive opening		acc. to IEC 60947-5-1, K	
Contact material	Silver alloy			
Operating travel diagram (scheme)	The switching points are adjustable up to 4° in direction of 0°. *see operating instruction*			
Maximum operating frequency	1200 / hour		acc. to IEC 60947-5-1	
Mechanical life span	10^6 operating cycles		acc. to IEC 60947-5-1	
Actuating speed	min. 2° / second, max. 90° / second			

Electrical features / Safety features

Utilization category	AC 15: 24 Vac / 2A / DC 13: 24 Vdc / 2A (connector plug) AC 15: 250 Vac / 4A / DC 13: 250 Vdc / 0,3 A (cable)	acc. to EN 60947-5-1
Contacts, termination 8-pole connector M12 or cable with 2 m or 5 m length **Pin and cable assignment**	  1 - green-yellow 3 - black 4 - black-white 5 - red 6 - red-white 7 - brown 8 - blue	
Type of cable	Type N 7 x0,5 mm², jacket PVC H05VV-F	acc. to IEC 60332-1-2 et seqq.
Short-circuit current	1000 A	acc. to EN 60947-5-1
Rated insulation voltage	30 V AC / 36 V DC (connector plug) / 250 Vac (cable)	
Short-circuit protection	2 A, 500 V, Typ gG (connector plug) / 6 A, 500 V, Typ gG (cable)	
Ambient temperature	- 25 °C up to + 80 °C	
Degree of pollution, external	3	acc. to EN 60947-5-1
Mission time (T_M)	20 years	acc. to EN ISO 13849-1
Number of cycles (B10 d)	5 000 000	acc. to EN 61820-2

Approvals, Conformities, Applicability

Low-voltage switchgear and controlgear CE declaration IMQ: CA02.03746 UL: E 131787		EN 60947-1/2007 EN 60947-1-5 : 2004 + A1/2009
Safety applications	up to SIL 3 / PL e	acc. to EN ISO 13849-1

Other important details and hints are given in the operating instructions for GN 139.1 hinges which are included with every hinge and which are also available as PDF downloads from „www.ganter-griff.com“ under ‚Service‘.

The hinges with safety switch must be mounted and commissioned by qualified technical personnel in compliance with the details given in the operating instructions and with the national and international rules and regulations and the applicable standards. Otto Ganter GmbH & Co. KG will assume no statutory liability for missing or incorrect information and for any consequences arising therefrom.