

PYROSWITCH DG 48N

Fast infrared temperature switch

Overview

Temperature switch PYROSWITCH



Features

- For switching operations between 200 °C and 1800 °C
- Switch point adjustable at the device
- Very quick switch times (1 ms)
- Potential-free output (PhotoMOS relay)
- Several fixed optics available
- Robust stainless steel housing

Description and applications

If there is a hot object in the path of ray of the temperature switch PYROSWITCH DG 48 N, a switching operation is initiated when a certain temperature threshold is exceeded.

The temperature threshold (switch point) can be adjusted between 200 °C and 1800 °C at the device. The switch time is very short (1 ms).

Due to several fixed optics the path of ray of the temperature switch can be adjusted optimally to the geometric conditions at the measuring location.

The electrical switch signal is output potential-free via a PhotoMOS relay. A LED status display signalizes the state „switch on“. The switching of L/H – H/L can be made at the device.

A LED aiming light is used for the optical alignment of the temperature switch. The device is accommodated in a robust stainless steel housing (IP 65).

Accessories like mounting angles, air purge units and cooling jackets are available.

The temperature switch is applied for detection, counting or for positioning of hot object, amongst others steel mills and forges.

Monitoring and 2-point control of the temperature of objects in the course of beam of the temperature switch are also possible.



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Technical data			
Type	DG 48N		
Temperature ranges ¹	200 °C to 1000 °C	250 °C to 1300 °C	350 °C to 1800 °C
Switch range	adjusted at the factory within temperature range, minimum span 50 °C (specify when ordering)		
Switch point	adjustable within switch range (Factory setting when delivered: appr. middle of switch range)		
Spectral range	1.5 µm to 1.8 µm		
Fixed optics (Order numbers)	290 (4481052001), 650 (4481053001), 2000 (4481056001)	290 (4481052002), 650 (4481053002), 2000 (4481056002)	290 (4481052003), 650 (4481053003), 2000 (4481056003)
Switch time	typical 1 ms		
Output	PhotoMOS relay, max. 550 mA, max. 60 V, potential-free, switching H/L or L/H, LED status display for „switch on“		
Aiming	LED aiming light (green)		
Power supply	24 V DC ± 25 %, residual ripple 500 mV		
Power consumption	appr. 0.3 W		
Operating temperature	0 °C to 70 °C		
Storage temperature	-20 °C to 70 °C		
Weight	appr. 450 g		
Dimensions	Thread M40 × 1.5, length 125 mm		
Housing	stainless steel with plug connector		
Protection class	IP 65 (according to DIN EN 60529 and DIN 40050)		
CE symbol	according to EU regulations		
Scope of delivery	PYROSWITCH DG 48N with optics, manual, two mounting screw nuts, connecting cable 5 m (5 pin). Other cable lengths on request.		

¹ Relating to a black body.

Fixed optics types 290, 650 and 2000

Optics 290 (sharp point at a = 290 mm measuring distance), aperture Ø D = 11.8 mm

Messabstand a [mm]	0	100	200	290	400	500	600	800	1000	1500	2000	4000
	Measuring field diameter M [mm]											
DG 48N (200 °C to 1000 °C)	11.8	9.3	6.8	6.6	10.7	16.3	21.9	33.2	44.4	72.5	101.0	213.0
DG 48N (250 °C to 1300 °C)	11.8	8.8	5.7	3.0	8.6	13.7	18.8	29.0	39.2	65.0	90.0	192.0
DG 48N (350 °C to 1800 °C)	11.8	8.2	4.7	1.5	6.5	11.1	15.7	24.9	34.1	57.0	80.0	172.0

Optics 650 (sharp point at a = 650 mm measuring distance), aperture Ø D = 10.8 mm

Messabstand a [mm]	0	100	200	300	400	500	650	800	1000	1500	2000	4000
	Measuring field diameter M [mm]											
DG 48N (200 °C to 1000 °C)	10.8	10.7	10.6	10.4	10.3	10.2	10.0	14.8	21.2	37.2	53.0	117.0
DG 48N (250 °C to 1300 °C)	10.8	10.1	9.5	8.8	8.2	7.5	6.5	10.5	15.8	29.1	42.0	96.0
DG 48N (350 °C to 1800 °C)	10.8	9.7	8.6	7.4	6.3	5.2	3.5	6.8	11.2	22.2	33.0	77.0

Optics 2000 (sharp point at a = 2000 mm measuring distance), aperture Ø D = 10.6 mm

Messabstand a [mm]	0	100	200	300	400	500	650	800	1000	1500	2000	4000
	Measuring field diameter M [mm]											
DG 48N (200 °C to 1000 °C)	10.6	11.6	12.5	13.5	14.5	15.5	16.9	18.4	20.0	25.2	30.0	71.0
DG 48N (250 °C to 1300 °C)	10.6	11.1	11.6	12.1	12.6	13.0	13.7	14.4	15.3	17.7	20.0	41.0
DG 48N (350 °C to 1800 °C)	10.6	10.6	10.6	10.5	10.5	10.5	10.4	10.4	10.3	10.2	10.0	21.0

Technische Änderungen vorbehalten. Technical details are subject to change. 15.08.13



We are certified for many years according to ISO 9001

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