

THYRO-S

Secure, fast, no contacts and communication capable

The new, communication-capable thyristor switch, Thyro-S, is equipped with advantageous functions and system features to handle an extended application field.

As a connection-ready thyristor switch with secure operational behavior and load monitoring, it serves to switch currents, voltages and power sources. It can be connected to bus systems, used in stand-alone operation, or used in conjunction with process controllers, PLC, or computer systems. Because it is easy to mount, readily placed into service, and provides safe operation, the new Thyro-S type thyristor switch is an excellent choice

for a wide field of applications in process technology, e.g. in the areas of:

- ovens (industrial, diffusion, drying)
- plant equipment (extruders, plastic presses)
- chemical industry (pipe trace heaters, pre-heating equipment)
- glass processing (drying coatings)
- automotive industry (e.g. paint drying equipment)
- printing machines (IR drying)
- packaging industry (shrink tunnels)



Key Features

In addition to wear-free operation and high efficiency, this product series features:

- simple handling and low space requirements
- voltage ratings 230 V, 400 V, 500 V
- current ratings 8 A ... 280 A
- integrated semiconductor fuse
- standard system interface for connection to an optional bus module (e.g. Profibus-DP or Modbus RTU)
- LED status indicators
- operational modes 1:1, as well as 1:2, 1:3, 1:5 (e.g. for commissioning)

- 24 V logic signal control (> 3V) or over standard system interface
- secure isolation between control and power sections
- 3-phase structure by connecting two Thyro-S units
- UL approval
- meets ISO 9001 quality standards
- CE conformant

Extras for the HRL type

- additional 24V DC/AC control voltage input
- load monitoring
- alarm relay

Power
Reliability

Type series and specifications (excerpt)

SPECIFICATION

Thyro-S H1, HRL1	Current [A]	Type Rating			Dissipation [W]	Dimensions [mm]			Weight [kg] approx.
		230 V	400 V	500 V		W	H	D	
	8	1.8	3.2	4	14	40	121	127	0.6
	16	3.7	6.4	8	30	45	121	127	0.7
	30	6.9	12	15	47	45	121	127	0.7
	45	10	18	22.5	48	52	190	182	1.7
	60	14	24	30	80	52	190	182	1.7
	100	23	40	50	105	75	190	190	1.9
	130	30	52	65	150	125	320	237	4
	170	39	68	85	210	125	320	237	4
..F..	280	64	112	140	330	125	370	237	5

Voltage Ratings	230 Volt -15%	+10%	> 99 V with addl. 24 V feed
	400 Volt -15%	+10%	> 172 V with addl. 24 V feed
	500 Volt -15%	+10%	> 215 V with addl. 24 V feed

Line Frequency	all Types	47 Hz à 63 Hz ; Δf = 6 Hz ;
	max. frequency change 5% per half cycle	

Load Type	ohmic load
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Operational Modes	Name	Load signal for digital set-point = on
	1:1 =	all full waves (default setting)
	1:2 =	every 2nd full line cycle
	1:3 =	every 3rd half line cycle (DC free)
	1:5 =	every 5th half line cycle (DC free)

Digital Set-point Inputs (Switch-on signals)	set-point 1	logic input 0...24V	Ri > 3,3kΩ	ON >3V
	set-point 2	system interface, connection to controlling automation system via optional bus module		

Relay Output	1 changeover contact, contact material: AgSnO2 / Au plated
	max. values: 250 V 6 A, 180 W, 1500 VA,
	dielectric strength, 4 kV / 8 mm

Ambient Temperature	35° C with external cooling (type F has integrated fan)
	45° C with passive convection cooling
	Operation at higher temperatures is permissible with reduced current limits: temperature range to 55°C: current rating reduction of -2% / °C