

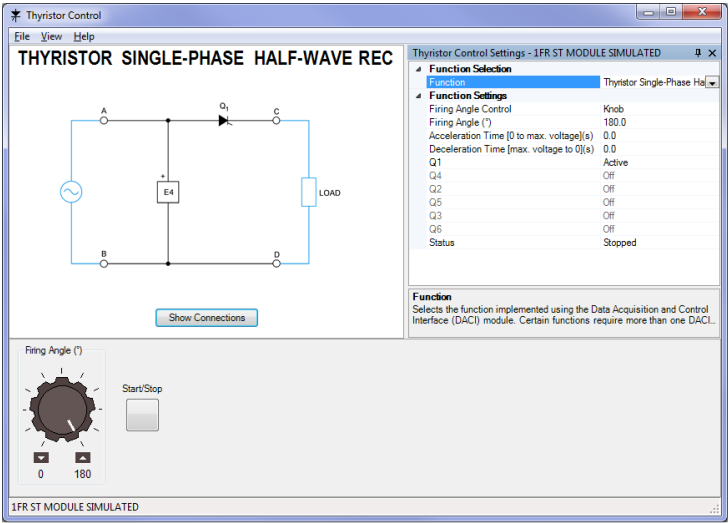
Thyristor Control Function Set

581454 (9069-30)

FESTO

LabVolt Series

Datasheet



* The product images shown in this document are for illustration purposes; actual products may vary. Please refer to the Specifications section of each product/item for all details. Festo Didactic reserves the right to change product images and specifications at any time without notice.

Festo Didactic
en
08/2025

Table of Contents

General Description	3
Specifications	3

General Description

The Thyristor Control Function Set enables the following thyristor-based devices to be implemented using the Data Acquisition and Control Interface, and the Power Thyristors:

- Thyristor Single-Phase Half-Wave Rectifier
- Thyristor Single-Phase Bridge
- Thyristor Three-Phase Bridge
- Thyristor Three-Phase Bridge with Feedback
- Solid-State Relay
- Thyristor Single-Phase AC Power Control
- Thyristor Three-Phase AC Power Control
- Direct-On-Line Starter
- Soft Starter

Specifications

Parameter	Value
Control Functions	
Control Functions	Thyristor Single-Phase Half-Wave Rectifier
	Thyristor Single-Phase Bridge
	Thyristor Three-Phase Bridge
	Thyristor Three-Phase Bridge with Feedback
	Solid-State Relay
	Thyristor Single-Phase AC Power Control
	Thyristor Three-Phase AC Power Control
	Direct-On-Line Starter
	Soft Starter
Thyristor Single-Phase Half-Wave Rectifier, Thyristor Single-Phase Bridge, Thyristor Three-Phase Bridge	
Firing Angle Control	Knob or analog input on the DACI
Firing Angle	0-180°
Acceleration Time (0 to Max. Voltage)	0-100 s
Deceleration Time (Max. Voltage to 0)	0-100 s
Thyristors Q1 to Q6	Active, on, or off (certain thyristors are unavailable depending on the selected thyristor control function)
Thyristor Three-Phase Bridge with Feedback	
Command Input	On or off
Command	Knob or analog input on the DACI
Inverter Limit	100-180°
Arc-Cosine	On or off
Feedback Input	Voltage, rms voltage, current, speed, power, or low-power analog signal
Feedback Range (Voltage Input Only)	80-800 V
Current Feedback Range (Current Input Only)	0.4-4 A
Speed Feedback Range (Speed Input Only)	250-2500 r/min
Analog Feedback Range (Analog Input Only)	1-10 V
Power Feedback Range (Power Input Only)	32-3200 W
Feedback Filter Cutoff Frequency	10-180 Hz
Acceleration Time (0 to 100%)	0-100 s
Deceleration Time (100% to 0)	0-100 s
Thyristors Q1 to Q6	Active, on, or off
Solid-State Relay	
Zero-Voltage Switching	On or off
Relay Control	Open or close
Thyristors Q1 to Q6	Active, on, or off (certain thyristors are unavailable)
Thyristor Single-Phase AC Power Control	

Parameter	Value
Control Mode	Phase control, synchronous burst fire control, or asynchronous burst fire control
Firing Angle Control	Knob or analog input on the DACI
Firing Angle	0-180°
Thyristors Q1 to Q6	Active, on, or off (certain thyristors are unavailable)
Thyristor Three-Phase AC Power Control	
Load Configuration	3 wires star (3S), 3 wires delta (3D), 4 wires star (4S), or 6 wires delta (6D)
Control Mode	Phase control or synchronous burst fire control (certain control modes are unavailable depending on the selected thyristor control function)
Firing Angle Control	Knob or analog input on the DACI
Acceleration Time (0 to Max. Voltage)	0-100 s
Deceleration Time (Max. Voltage to 0)	0-100 s
Thyristors Q1 to Q6	Active, on, or off
Direct-On-Line Starter	
Motor Full-Load Current	0.4-2 A
Overload	On or off
Overload Class	5, 10, 15, 20, 25, 30, 35, or 40
Soft Starter	
Mode	Soft Start or current-limit start
Motor Full-Load Current	0.4-2 A
Initial Torque	15%, 25%, 35%, or 65% of LRT
Start Time	2-200 s
Kick-Start Time	0 s, 0.5 s, 1 s, or 1.5 s
Soft Stop	0, 1, 2, or 3 times the start time
Overload	On or off
Overload Class	5, 10, 15, 20, 25, 30, 35, or 40

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

Festo Didactic reserves the right to make product improvements at any time and without notice and is not responsible for typographical errors. Festo Didactic recognizes all product names used herein as trademarks or registered trademarks of their respective holders. © Festo Didactic Inc. 2025. All rights reserved.

Festo Didactic SE

Rechbergstrasse 3
73770 Denkendorf
Germany

P. +49(0)711/3467-0
F. +49(0)711/347-54-88500

Festo Didactic Inc.

607 Industrial Way West
Eatontown, NJ 07724
United States

P. +1-732-938-2000
F. +1-732-774-8573

Festo Didactic Ltée/Ltd

675 rue du Carbone
Québec QC G2N 2K7
Canada

P. +1-418-849-1000
F. +1-418-849-1666

www.labvolt.com

www.festo-didactic.com