Power Line Series Compensation Demonstrator (Add-on to EMS) 586477 (8362-A0)



LabVolt Series

Datasheet



Festo Didactic en 120 V - 60 Hz 02/2025

* 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.

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General Description

The Power Line Series Compensation Demonstrator (EMS Version) is a variant of the Power Line Series Compensation Demonstrator, Model 8362, that does not include any test equipment, leads, or power supply. It is mounted in a full-size EMS module and requires a Data Acquisition and Control Interface, with the Power Line Series Compensation Function Set and the LVDAC-EMS software for all the required measurements.

Manual

Description	Manual number
Power Line Series Compensation Demonstrator (User Guide)	584246 (31993-E0)

Table of Contents of the Manual(s)

Power Line Series Compensation Demonstrator (User Guide) (584246 (31993-E0))

- 1 Power Transfer Capability of a Transmission Line
- 2 Effects of Series Compensation on Power Transfer Capability and System Stability
- 3 Effect of Series Compensation on Regulation of the Receiver Voltage
- 4 Reduction of the Transmission Losses on Parallel Lines Using Series Compensation

Additional Equipment Required to Perform the Exercises (Purchased separately)

Qty	Description	Model number
1	Power Line Series Compensation Function Set	581461 (9069-S0) ¹

Specifications

Parameter	Value	
Power Requirement		
Current	2 A (circuit-breaker protected)	
Service Installation	Standard single-phase ac outlet	
Line 1		
Simulation Length	200 km	
Simulated Nominal Power	4500 MW	
Line 2		
Simulation Length	300 km	
Simulated Nominal Power	3000 MW	
Compensation	17 %, 25 %, and 34 %	
Front panel switches for various system configurations Toggle type (16), rotary type (1)		
Physical Characteristics		
Intended Location	On a table able to support the weight of the equipment	
Dimensions (H x W x D)	308 x 291 x 440 mm (12.1 x 11.5 x 17.3 in)	
Net Weight	TBE	

¹ For the required data acquisition.

Module Options Description

Power Line Series Compensation Function Set 581461 (9069-S0)

Series Compensation			
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M1 Line 1 P	M2 Line 1 Q	M3 Line 1 I	M4 Sender E
-100			
P 5000 MW	Q 2000 Mvar	AC 4000 A	AC 1000 kV
M5 Line 2 P	M6 Line 2 Q	M7 Line 2 I	M8 Phase
0.000	0.000	0.000	0.000
P 5000 MW	Q 2000 Mvar	AC 4000 A	60 *
M9 Receiver P	M10 Receiver Q	M11 Receiver I	M12 Receiver E
100 0.000	-100 0.000	0.000	0.000
P 8000 MW	Q 2000 Mvar	AC 6000 A	AC 1000 kV
Sampling Window : 2 cycles (266.7 ms) Number of samples per input : 2048 1FR ST MODUI			

The Power Line Series Compensation Function Set enables the Series Compensation function in LVDAC-EMS.

Additional Equipment Required to Perform the Exercises (Purchased separately)

Qty	Description	Model number
1	Power Line Series Compensation Demonstrator (Add-on to EMS)	586477 (8362-A0)

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.

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