

Phase-Coded Pulse Compression Processor

592571 (9615-00)



LabVolt Series

Datasheet



Festo Didactic
en
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* 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 Phase-Coded Pulse Compression Processor allows to experiment pulse compression with the radar training system. It is divided into three sections: Dual-Channel Sampler, Pulse Compressor and Pulse Generator.

The Dual-Channel Sampler samples the I- and Q-Channel baseband signals from the receiver and stretch these signals in time in order to facilitate observation and measurement. It also allows to set the origin (radar display "window") and select the range span. A time base output is available to trig an oscilloscope when displaying the A-Scope.

The Pulse Compressor compresses the pulses by correlating the digital data with the selected code using one or two compressor stages. It allows to select the sample rate of the A/D converter, select the filter mode (matched or optimum mismatched). Test points are also available to monitor the different signals using an oscilloscope.

The PRF and Sync. signals need to be inputted into the module. Note that only the 288 Hz PRF mode is supported.

The Pulse Generator allows to select the pulse compression code used to encode the baseband pulse.

A switch at the back of the module allows to inject noise into the system to experiment real-life conditions.

* WARNING: This equipment is subject to export control. Please contact your sales representative to know if this product can be imported in your region.

Additional Equipment Required to Perform the Exercises (Purchased separately)

Qty	Description	Model number
1	IEC Power Cable, straight - CEE 7/VII (Type F) _____	789182 (93992-05) ¹
1	IEC Power Cable, straight - NEMA (Type B) _____	789405 (95451-00) ²
1	IEC Power Cable, straight - AS 3112 (Type I) _____	789406 (95451-0A) ³

Specifications

Parameter	Value
Pulse Inputs	
Level	-1V to +1V
Impedance	50 Ω
Connector Type	SMA
A-Scope Time Base Output	
Level	-1V to +1V
Connector Type	BNC
Ranges	Selectable, 1.8m, 3.6m, 7.2m or 12.6m (5.9 ft, 11.8 ft, 23.6 ft or 41.3 ft)
Pulse Generator	
Output Impedance	50 Ω
Connector Type	SMA
Pulse Generator / Code and Length	
Barker	4*, 5*, 7*, 13*, 5X7 ns (* normalized or non-normalized)
PRBS	15, 31 ns
Near Perfect	15, 31 ns
Golay	8 ns
Other	Rectangular: 1, 5 ns, Golay: 32 ns

¹ The power cord line is not included with stand-alone Phase-Coded Pulse Compression Processor. Please add the right power cord line for the region. Note that when ordering a system, all power cord lines are included.

² The power cord line is not included with stand-alone Phase-Coded Pulse Compression Processor. Please add the right power cord line for the region. Note that when ordering a system, all power cord lines are included.

³ The power cord line is not included with stand-alone Phase-Coded Pulse Compression Processor. Please add the right power cord line for the region. Note that when ordering a system, all power cord lines are included.

Parameter	Value
Trigger Inputs	
Connector Type	BNC
Voltage Level	TTL
Pulse Compressor	
Sample Rate	1, 3 samples / ns
Filters	Optimum Mismatch, Matched
Outputs	-1V to +1V
Test Point Monitors	
Outputs	2
Test Points	6
Connector Type	BNC
Level	-1V to +1V
Power Requirements	
From DC Source	15V (60 VA max.)
External Power Adapter	100-240 V AC, 50-60 Hz, 2A
Service Installation	Standard single-phase outlet
Physical Characteristics	
Dimensions (H x W x D)	305 x 330 x 305 mm (12 x 13 x 12 in.)
Net Weight	6.7 kg (14.7 lb)

Module Options Description

IEC Power Cable, straight - CEE 7/VII (Type F) 789182 (93992-05)



One side designed as a connector and one side with a country-specific plug.

This power cord connects the equipment to a wall outlet.

IEC Power Cable, straight - NEMA (Type B) 789405 (95451-00)



One side designed as a connector and one side with a country-specific plug (Type B).

This power cord connects the equipment to a wall outlet.

NEMA 5-15 for US, CA, Central America, BR, CO, EC, KR, TW, TH, PH, JP.

IEC Power Cable, straight - AS 3112 (Type I) 789406 (95451-0A)



One side designed as a connector and one side with a country-specific plug.

This power cord connects the equipment to a wall outlet.

Connector as per AS 3112 for AU, NZ, CN, AR.

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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