

## EECEP10 - October 16, 2020

Item # EECEP10 was discontinued on October 16, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### COMPACT HOUSINGS FOR CUSTOM DEVICES

- ▶ Aluminum Enclosures for Custom Electronics or Fiber Modules
- ▶ Round or Rectangular Housings for Custom In-Line Devices
- ▶ End Plates Available with Electrical Connectors or Fiber Bulkheads



**ET1**  
Empty In-Line BNC  
Feedthrough Housing



**EEB3311**  
Customizable Electronics  
Housing, Blank End Plates



**EEA14**  
Customizable Electronics  
Housing, BNC Connectors



**EEBFPF2**  
End Plate with Dual FC/PC  
Fiber Bulkheads



**EECEPBNC**  
End Plate with BNC  
Connector

[Hide Overview](#)

#### OVERVIEW & NBSP ;

##### Features

- Compact, Customizable, Aluminum Device Housings
  - In-Line BNC Feedthrough Housing
  - Extruded Housings with Electrical Connectors or Blank End Plates
  - End Plates Available with Fiber Bulkheads, Electrical Connectors, or No Connectors
- Facilitate Quick Integration of Custom Electronics or Fiber Components
- Blank Area Engraved on Housing for Write-On Labels
- Aluminum Side Clamps for Mounting or Stacking Housings



Click to Enlarge  
 [APPLIST]  
 [APPLIST]  
 EEB3311 Housing with BNC Cable and  
 FC/PC Fiber Patch Cable Attached

These compact housings are empty enclosures that enable the user to create custom electrical circuits, such as filters, voltage dividers, or impedance matchers, as well as fiber modules, such as fused couplers or fiber detectors.

##### BNC Feedthrough Housing

The ET1 tube housing has a male BNC connector on one side and a female BNC connector on the other side. This in-line feedthrough housing is ideal for simple circuits made from a small number of standard electronic components or more complex circuits built with surface-mounted elements on a small printed circuit board (PCB).

##### Quick Links

<b>BNC Feedthrough Housing</b>
<b>Extruded Aluminum Housings</b>
Housings with Blank End Plates
Housings with Electrical Connectors
<b>End Plates</b>
Fiber Bulkheads
Electrical Connectors
Blank End Plates
<b>Clamps</b>
Aluminum Side Clamps
Plastic Double-Sided Clamps
<b>Screws</b>



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The slotted body of the EEA14 housing is shown here with the EEAPCB1 Customizable PCB (shown with electrical elements, not included) partially inserted into it.

### Extruded Aluminum Housings

For modules that require more space, extruded aluminum housings in several sizes up to 1.75" x 2.25" x 4.00" are available. These housings are slotted inside to accept printed circuit boards and are offered with blank end plates, female BNC connectors, or female SMA connectors. For detailed dimensions of the housings, please click on either the red Docs icons (📄) or the blue icons (🔍) below.

Extra end plates and screws are available for many of the housings sold below. We offer blank end plates and end plates with female BNC or female SMA connectors for all sizes of extruded aluminum housings below, as well as end plates with FC/PC, FC/APC, or SMA fiber bulkheads for the EEB 1.00" x 2.25" housings.

Aluminum side clamps are available to mount the housings. The clamps have a #8 (M4) counterbore, which allows them to be mounted to a Ø1/2" post or other surface with an 8-32 (M4) tap. Alternatively, double-sided plastic clamps are available to mount a housing on top of another housing for a secure, compact setup.

[Hide Empty In-Line BNC Feedthrough Housing](#)

### Empty In-Line BNC Feedthrough Housing

- ▶ Ø0.63" x 2.61" In-Line BNC Feedthrough Housing
- ▶ Compatible with Off-the-Shelf Electronic Elements
- ▶ Accepts 10 mm x 15 mm PCB
- ▶ Male and Female BNC Connectors
- ▶ Blank Area to Label Custom Circuits



Click to Enlarge  
ET1 Housing with an RC Circuit Made from Standard Electronic Elements (Not Included)



Click to Enlarge  
The ET1 housing is shown here with its outer shell removed (top). A blank label is included on the back side (bottom).

The ET1 tube housing is an in-line (feedthrough) BNC structure with a male BNC connector on one side and a female BNC connector on the other side (as shown in the image to the right). The 2-56 screw in the base provides a convenient connection to ground, and the compact design can easily house a small number of standard electronic elements (e.g., resistors, capacitors, etc.). The image to the right shows the ET1 with a simple RC filter using standard circuit elements.

The ET1 electronic housing can hold a small (10 mm x 15 mm) form factor PCB that, using surface mounted elements, allows for the inclusion of many electronic elements. For example, Thorlabs' low- and high-pass filters (which were the basis for the ET1) house 5th and 6th order elliptical filters composed of anywhere from 8 to 15 electronic elements. The back side of the enclosure includes a blank label for identifying custom circuits. For detailed dimensions, click on the Docs icon (📄) below.

Part Number	Description	Price	Availability
ET1	Compact Electronics Housing, In-Line BNC, Ø0.63" x 2.61"	\$49.78	5-8 Days

[Hide Empty Extruded Aluminum Housings with Blank End Plates](#)

### Empty Extruded Aluminum Housings with Blank End Plates

- ▶ Seven Sizes Available
- ▶ Slotted Construction for Use with Printed Circuit Boards
- ▶ Each Housing Includes Blank End Plates
- ▶ Blank Area to Label Custom Devices
- ▶ Extra End Plates Available Below



Click to Enlarge  
EEB3311 Housing with End Plate Removed



Click to Enlarge  
Each housing has a blank area for writing labels to identify custom devices.








These extruded housings are empty enclosures with nickel-plated ends. For detailed dimensions of each enclosure, click on the blue icon (🔍) in the table below. The front side of each enclosure includes a blank label area for identification. Note that these housings are made from extruded bar stock, and as such, some minor cosmetic defects in the finished products are to be expected.


Each housing has two blank end plates with a Ø0.05" pilot bore through hole (EEA11) or dimple (all other housings) for custom connectors. Note that the dimple may be on the inner side of the end plate when the enclosure is shipped. We recommend using a step drill bit to machine a hole in the end plate; a standard,

single-size drill bit may cause deformation in the plate. The end plates are easily removable and are held in place with 4-40 (EEA11) or M3 (all other housings) Phillips pan head screws.

The housings have slots inside to accept a PCB with thickness between 0.060" and 0.065". The table below includes compatible PCB sizes for each enclosure.

Extra end plates are available below. Blank end plates, end plates with BNC or SMA electrical connectors, and end plates with FC/PC, FC/APC, or SMA fiber bulkheads can be purchased. Extra M3 screws, compatible with all housings except the EEA11, are also available below.

Item #	Housing Dimensions <sup>a</sup>	Compatible Items				Compatible PCB Dimensions		
		End Plates	Side Clamps	Screws	Printed Circuit Boards	Horizontal Orientation	Vertical Orientation	
EEA11		N/A <sup>b</sup>	ECM100 ECM125 EPS125	N/A	EEAPB1 EEAPCB1	0.99" x 2.30" (25.1 mm x 58.4 mm)	0.75" x 2.30" (19.0 mm x 58.4 mm)	
EEB3311		EEBFPP1 End Plate, FC/PC Fiber Bulkhead EEBFPP2 End Plate, 2 FC/PC Fiber Bulkheads	ECM100 ECM225 EPS225	M3BHTF25 (Sold Below)	EEB33PCB1	2.00" x 3.32" (50.8 mm x 84.3 mm)	0.75" x 3.32" (19.0 mm x 84.3 mm)	
EEB4011		EEBFPA1 End Plate, FC/APC Fiber Bulkhead EEBFPA2 End Plate, 2 FC/APC Fiber Bulkheads EEBFPS1 End Plate, SMA Fiber Bulkhead EEBFPS2 End Plate, 2 SMA Fiber Bulkheads EEBEP Blank End Plate EEBEP10 Blank End Plates, 10 Pack EEBEPBNC End Plate, BNC Connector EEBEPSMA End Plate, SMA Connector			EEB40PCB1	2.00" x 3.99" (50.8 mm x 101.3 mm)	0.75" x 3.99" (19.0 mm x 101.3 mm)	
EEC3011		EECEP Blank End Plate EECEP10 Blank End Plates, 10 Pack			ECM125 ECM175	N/A	1.50" x 2.99" (38.1 mm x 76.0 mm)	1.00" x 2.99" (25.4 mm x 76.0 mm)
EEC4011		EECEPBNC End Plate, BNC Connector EECEPSMA End Plate, SMA Connector			EPS125 EPS175		1.50" x 3.99" (38.1 mm x 101.3 mm)	1.00" x 3.99" (25.4 mm x 101.3 mm)
EED3011		EEDEP Blank End Plate EEDEP10 Blank End Plates, 10 Pack			ECM175 ECM225		2.00" x 2.99" (50.8 mm x 76.0 mm)	1.50" x 2.99" (38.1 mm x 76.0 mm)
EED4011		EEDEPBNC End Plate, BNC Connector EEDEPSMA End Plate, SMA Connector			EPS175 EPS225		2.00" x 3.99" (50.8 mm x 101.3 mm)	1.50" x 3.99" (38.1 mm x 101.3 mm)

- Click on the blue icon () to view a mechanical drawing.
- We do not provide extra end plates for the EEA11. However, the EEA14 Housing (sold below) includes end plates with female BNC connectors, while the EEA17 Housing (sold below) includes end plates with female SMA connectors.

Part Number	Description	Price	Availability
EEA11	Compact Device Housing, Blank End Plates, 1.00" x 1.25" x 2.51"	\$43.28	Today
EEB3311	Compact Device Housing, Blank End Plates, 1.00" x 2.25" x 3.33"	\$22.07	Today
EEB4011	Compact Device Housing, Blank End Plates, 1.00" x 2.25" x 4.00"	\$25.43	Today
EEC3011	Compact Device Housing, Blank End Plates, 1.25" x 1.75" x 3.00"	\$20.99	Today
EEC4011	Compact Device Housing, Blank End Plates, 1.25" x 1.75" x 4.00"	\$24.35	Today
EED3011	Compact Device Housing, Blank End Plates, 1.75" x 2.25" x 3.00"	\$24.35	Today
EED4011	Compact Device Housing, Blank End Plates, 1.75" x 2.25" x 4.00"	\$26.51	Today

## Empty Extruded Aluminum Housings with Electrical Connectors

- ▶ 1.00" x 1.25" x 2.51" Extruded Housings
- ▶ Slotted Construction for a 0.99" x 2.30" PCB
- ▶ Two Connector Types:
  - ▶ EEA14: Two Female BNC Connectors
  - ▶ EEA17: Two Female SMA Connectors
- ▶ Blank Area to Label Custom Circuits



Click to Enlarge  
Back View of  
the EEA14's  
Slotted Female  
BNC Connector



Click to Enlarge  
The slotted body of the EEA14 housing is shown here with the EEAPCB1 Customizable PCB (shown with electrical elements, not included) partially inserted into it.

These Extruded Electronics Housings are empty 1.00" x 1.25" x 2.51" enclosures with nickel-plated ends.

The EEA14 has two female BNC connectors and the EEA17 has two female SMA connectors. The housings have slots inside to accept a PCB with a thickness between 0.060" and 0.065". See the table below for compatible PCB sizes for the enclosures. For detailed dimensions of each enclosure, click on the blue icon (i) in the table. These enclosures are ideal for housing a wide variety of electronic devices that can be built with surface-mounted elements, such as Thorlabs' EEAPCB1 Customizable Printed Circuit Board (shown in the image to the right), which gives users the ability to create their own RCL circuits.

The end plates of these housings are easily removable and are held in place with 4-40 round-head Phillips screws. The front side of the enclosures includes a blank label for identifying custom circuits. Note that these housings are made from extruded bar stock, and as such, some minor cosmetic defects in the finished products are to be expected.

Item #	Connectors	Housing Dimensions <sup>a</sup>	Compatible PCB Dimensions		Compatible Items	
			Horizontal Orientation	Vertical Orientation	Printed Circuit Boards	Side Clamps
EEA14	Two BNC Female <sup>b</sup>		0.99" x 2.30" (25.1 mm x 58.4 mm)	0.75" x 2.30" (19.0 mm x 58.4 mm)	EEAPB1 EEAPCB1	ECM100 ECM125 EPS125
EEA17	Two SMA Female					

- Click on the blue icon (i) to view a mechanical drawing.
- These connectors feature a 75 Ω impedance. If mated to a 50 Ω BNC connector, they will introduce an impedance mismatch that may degrade performance.

Part Number	Description	Price	Availability
EEA14	Compact Electronics Housing, BNC Connectors, 1.00" x 1.25" x 2.51"	\$54.11	Today
EEA17	Compact Electronics Housing, SMA Connectors, 1.00" x 1.25" x 2.51"	\$59.79	Today

[Hide Fiber End Plates](#)

## Fiber End Plates

- ▶ End Plates with FC/PC, FC/APC, or SMA Bulkheads Available
- ▶ Available with One or Two Bulkheads
- ▶ Offset Connectors for Compatibility with Internal Components

Extra end plates with 2.2 mm wide-key FC/PC, 2.0 mm narrow-key FC/APC, or SMA905 fiber bulkheads are available for many of the housings sold above. See the table to the right for compatible housings.

Item #	Connector Style	Compatible Housing	End Plate Dimensions
EEBFPF1	FC/PC Fiber Bulkhead	EEB3311 EEB4011	1.00" x 2.25"
EEBFPF2	2 FC/PC Fiber Bulkheads		
EEBFPA1	FC/APC Fiber Bulkhead		
EEBFPA2	2 FC/APC Fiber Bulkheads		
EEBFPS1	SMA Fiber Bulkhead		
EEBFPS2	2 SMA Fiber Bulkheads		

These end plates are shipped pre-assembled and are available with either one or two bulkheads. The FC/PC and FC/APC versions have an insertion loss\* of <0.5 dB when measured at 635 nm with FC-terminated SM600 fibers. The SMA end plate has a typical insertion loss of <1.5 dB when used with a pair of Ø200 μm core multimode fibers. The connectors for these end plates are offset above center to accommodate a PCB or mounted fiber coupler installed in the housing.

Four screws are included with each end plate for mounting to a compatible housing. Extra M3 Phillips pan head screws are available below in packs of 25. These screws are compatible with all of the housings sold above except the ET1, EEA11, EEA14, and EEA17.

**\*Please Note:** When PM fiber is used, the insertion loss will increase to >1.0 dB. The insertion loss for the FC/PC mating sleeve is only valid when using a FC/PC connector while the FC/APC mating sleeve will maintain the stated insertion loss with any FC connector.


Part Number	Description	Price	Availability
EEBFPF1	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, FC/PC Bulkhead, 1.00" x 2.25"	\$21.37	Today
EEBFPF2	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, 2 FC/PC Bulkheads, 1.00" x 2.25"	\$31.88	Today
EEBFPA1	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, FC/APC Bulkhead, 1.00" x 2.25"	\$27.30	Today
EEBFPA2	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, 2 FC/APC Bulkheads, 1.00" x 2.25"	\$43.21	Today
EEBFPS1	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, SMA Bulkhead, 1.00" x 2.25"	\$21.12	Today
EEBFPS2	Customer Inspired!&nbsp;End Plate for Fiber Device Housings, 2 SMA Bulkheads, 1.00" x 2.25"	\$30.39	Today

[Hide Electrical End Plates](#)

### Electrical End Plates

- ▶ Three Sizes Available
- ▶ BNC or SMA Electrical Connectors
- ▶ Compatibility with Six of Our Housings

Extra end plates with BNC or SMA connectors are available for many of the housings sold above. See the table to the right for compatible housings.

These endplates have a pre-drilled hole for their respective connector type. The components require some assembly when shipped, as shown in the photo to the right. Both the BNC and SMA connectors included with these items are female connectors. For electrical specifications of the connectors, click on the red Docs icon (  ) next to the item # below.



Click to Enlarge  
Assembly of EEBEPBNC End Plate

Item #	Connector Style	Compatible Housing	End Plate Dimensions
EEBEPBNC	Female BNC <sup>a</sup>	EEB3311 EEB4011	1.00" x 2.25"
EEBEPSMA	Female SMA		
EECEPBNC	Female BNC <sup>a</sup>	EEC3011 EEC4011	1.25" x 1.75"
EECEPSMA	Female SMA		
EEDEPBNC	Female BNC <sup>a</sup>	EED3011 EED4011	1.75" x 2.25"
EEDEPSMA	Female SMA		

- These BNC connectors feature a 75 Ω impedance. If mated to a 50 Ω BNC connector, they will introduce an impedance mismatch that may degrade performance.

Extra M3 Phillips pan head screws are available below in packs of 25. These screws are compatible with all of the housings sold above except the ET1, EEA11, EEA14, and EEA17.

Part Number	Description	Price	Availability
EEBEPBNC	End Plate for Electronics Housings, BNC Connector, 1.00" x 2.25"	\$12.24	Today
EEBEPSMA	End Plate for Electronics Housings, SMA Connector, 1.00" x 2.25"	\$14.94	Today
EECEPBNC	End Plate for Electronics Housings, BNC Connector, 1.25" x 1.75"	\$13.32	Today
EECEPSMA	End Plate for Electronics Housings, SMA Connector, 1.25" x 1.75"	\$16.02	Today
EEDEPBNC	End Plate for Electronics Housings, BNC Connector, 1.75" x 2.25"	\$14.40	Today
EEDEPSMA	End Plate for Electronics Housings, SMA Connector, 1.75" x 2.25"	\$17.21	Today

[Hide Blank End Plates](#)

### Blank End Plates

- ▶ Use to Cap or Make Custom End Plates
- ▶ Ø0.05" Pilot Bore Dimple for Making Custom Connectors
- ▶ Three Sizes Provide Compatibility for Six of Our Housings

Extra blank end plates are available for many of the housings sold above. See the table to the right for compatible housings.

These end plates have a Ø0.05" pilot bore dimple for custom connectors. We recommend using a step drill bit to machine a hole in the end plate; a standard, single-size drill bit may cause deformation in the plate. Blank end plates are also available in packs of 10.

Item #	Connector Style	Compatible Housing	End Plate Dimensions
EEBEP	Blank	EEB3311 EEB4011	1.00" x 2.25"
EEBEP10	Blank, Pack of 10		
EECEP	Blank	EEC3011 EEC4011	1.25" x 1.75"
EECEP10	Blank, Pack of 10		
EEDEP	Blank	EED3011 EED4011	1.75" x 2.25"
EEDEP10	Blank, Pack of 10		

Extra M3 Phillips pan head screws are available below in packs of 25. These screws are compatible with all of the housings sold above except the ET1, EEA11,



EEA14, and EEA17.

Part Number	Description	Price	Availability
EEBEP	Blank End Plate for Compact Device Housings, 1.00" x 2.25"	\$2.76	Today
EEBEP10	Blank End Plate for Compact Device Housings, 1.00" x 2.25", Qty. 10	\$24.35	Today
EECEP	Blank End Plate for Compact Device Housings, 1.25" x 1.75"	\$2.99	Today
EECEP10	Blank End Plate for Compact Device Housings, 1.25" x 1.75", Qty. 10	\$25.43	Today
EEDEP	Blank End Plate for Compact Device Housings, 1.75" x 2.25"	\$3.31	5-8 Days
EEDEP10	Blank End Plate for Compact Device Housings, 1.75" x 2.25", Qty. 10	\$28.95	Today

[Hide Aluminum Clamps. Post Mountable](#)

### Aluminum Clamps, Post Mountable

These anodized aluminum clamps provide secure mounting for the rectangular electronics housings sold above. Four sizes of clamps are available, and each is designed to fit on one side of the housing; see the table below for compatibility. The clamp can snap onto the side of the appropriate housing and the flexure lock can be tightened using the 2 mm (5/64") hex locking screw on the side.

Each clamp has a #8 (M4) counterbore on the bottom; the ECM225 has three of these counterbores. The counterbores allow the clamps to be mounted on a Ø1/2" post or any surface with an 8-32 (M4) tap. The clamp must be mounted via the counterbore before the electronics housing is attached, as the counterbore will not be accessible once the housing is secured in the clamp.



Click to Enlarge  
EEC3011 Mounted using an  
ECM125 on a Ø1/2" Post

Clamp Item #	ECM100	ECM125	ECM175	ECM225
Width	1.00"	1.25"	1.75"	2.25"
Compatible Housings	EEA11 EEA14 EEA17 EEB3311 EEB4011	EEA11 EEA14 EEA17 EEC3011 EEC4011	EEC3011 EEC4011 EED3011 EED4011	EEB3311 EEB4011 EED3011 EED4011
Mounting Holes	One #8 (M4) Counterbore		Three #8 (M4) Counterbores	

Part Number	Description	Price	Availability
ECM100	Aluminum Clamp for Compact Device Housings, 1.00"	\$17.75	Today
ECM125	Aluminum Clamp for Compact Device Housings, 1.25"	\$18.29	Today
ECM175	Aluminum Clamp for Compact Device Housings, 1.75"	\$18.83	Today
ECM225	Aluminum Clamp for Compact Device Housings, 2.25"	\$19.37	Today

[Hide Plastic Clamps. Double Sided](#)

### Plastic Clamps, Double Sided

These ABS plastic clamps provide secure mounting for the rectangular electronics housings sold above. Three sizes of clamps are available, and each is designed to attach two housings with a common side width; see the table below for compatibility. The clamp easily snaps onto the side of the appropriate housing. To remove the clamp, slide it along the edge of the housing until it comes off at the corner.

These clamps are sold in pairs.



Click to Enlarge  
EEC3011 Mounted on  
EED4011 using Two  
EPS175 Double-Sided  
Clamps

Clamp Item #	EPS125	EPS175	EPS225
Width	1.25"	1.75"	2.25"
Compatible Housings	EEA11 EEA14 EEA17 EEC3011	EEC3011 EEC4011 EED3011	EEB3311 EEB4011 EED3011

EEC4011

EED4011

EED4011

Part Number	Description	Price	Availability
EPS125	Double-Sided Plastic Clamp for Compact Device Housings, 1.25", Qty. 2	\$6.37	Today
EPS175	Double-Sided Plastic Clamp for Compact Device Housings, 1.75", Qty. 2	\$6.63	Today
EPS225	Double-Sided Plastic Clamp for Compact Device Housings, 2.25", Qty. 2	\$6.90	Today

[Hide Extra Screws](#)

### Extra Screws

Extra M3 Phillips pan head screws are available in packs of 25. These screws are compatible with all of the housings sold above except the ET1, EEA11, EEA14, and EEA17. They are used to secure an end plate to a compatible housing using the four corner holes. They are operated using a Phillips head screwdriver.

Part Number	Description	Price	Availability
M3BHTF25	M3 Stainless Steel Phillips Pan Head Screw, 12 mm Long, Qty. 25	\$7.74	Today