Professional toggle switches • threaded bushing Ø 6.35 mm



5411000108

DISTINCTIVE FEATURES

CECC approved

Robust switches for high specification environments Toggle action on 2-position models for a smooth mechanical operation

Several front panel sealing options



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load: - silver contacts (A-AD2-X780): 4 A 30 VDC
- gold contacts (D): 100 mA 30 VDC
- Minimum load : AD2-X780-D contacts: 10 mA 50 mV, 10 μA 5 V min.
- Peak currents, refer to "Special options".
- Initial contact resistance: $10 \text{ m}\Omega$ max.
- Insulation resistance: 1,000 $\text{M}\Omega$ min. at 500 VDC
- Dielectric strength:
 1,000 Vrms 50 Hz min. between terminals
 2,000 Vrms 50 Hz min. between poles and between terminals and frame
- Contact bounce: 2 ms max.
- Electrical life at full load:

		Number of cycles	
Contacts	Max. current/voltage rating	2 positions	3 positions
А	4 A 30 VDC	50,000	50,000
AD2 X780	4 A 30 VDC (Gold plating : 100mA 30VDC max.)	20,000	20,000
D	100 mA 30 VDC	80,000	50,000
	Low level or mechanical life	150,000	100,000



GENERAL SPECIFICATIONS

- Torque: 1.25 Nm (.92 Ft.lb) max. applied between the 2 nuts
- Standard panel thickness: 2.5 mm (.098) max.
- Operating temperature: -40 °C to +85 °C (-40 °F to +185 °F)

The company reserves the right to change specifications without notice.





1

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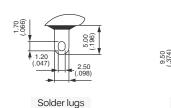
D MATERIALS

- Case: diallylphthalate (DAP)
- Actuator: brass, nickel plated
- Bushing: brass, nickel plated
- Housing: brass, nickel plated
- Contacts
- A: silver

AD2: gold plated silver (2 microns gold)
X780: solid rivet - gold plated, silver/nickel alloy
D: solid gold rivet
X910: silver/nickel alloy (for peak currents, see "Special options")

• Terminal seal: epoxy

Note: AD2 and X780 contacts can be used for high level applications. In this case, the gold layer is considered only as a protection against oxidation during storage.

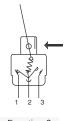


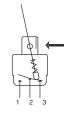




ELECTRICAL FUNCTIONS

→ KEYWAY



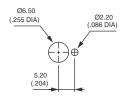


Function 6

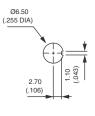
Other functions



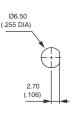
PANEL CUT-OUT



Standard



With K sealing option



With X408 sealing option

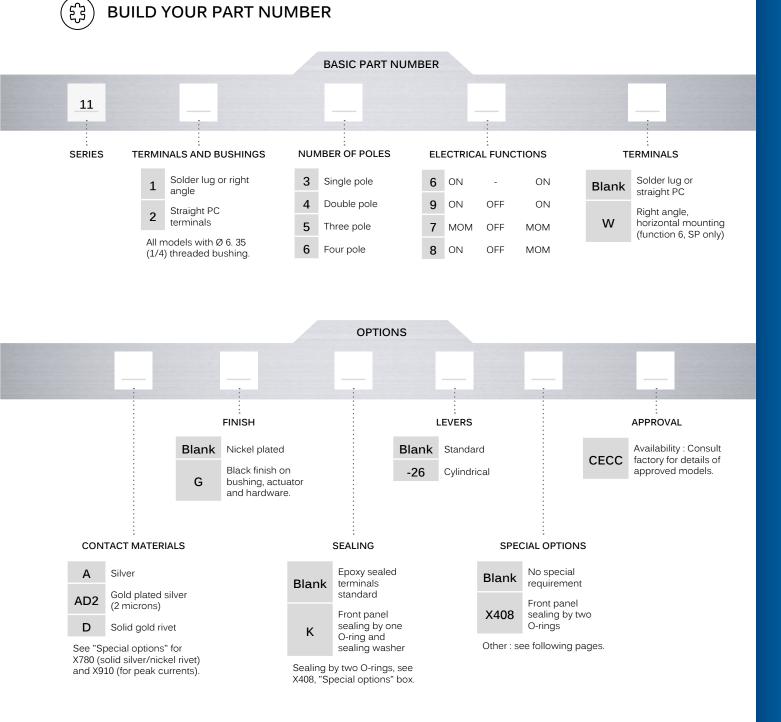
AGENCY APPROVALS



CECC 96201-005 CECC 96201-008

Availability: consult factory for details of approved models. **Marking:** to order switches marked CECC, complete appropriate box of ordering format.

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On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart

- () Notice: please note that not all combinations of above numbers are available. Refer to www.apem.com for further information.
- (b) Sealing boots are available to protect the switches against dust and water. See "Sealing Boots" section of website.
- () Mounting accessories : standard hardware supplied with all models: 2 hex nuts 8 (.314) across flats, 1 locking ring and 1 lockwasher. Standard and special hardware is presented in the "Hardware" section of website.

3

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SOLDER LUG TERMINALS - SINGLE POLE



BASIC P/N	I	Ш	III
11136	ON	-	ON
11139	ON	OFF	ON
11137	MOM	OFF	MOM
11138	ON	OFF	MOM

SOLDER LUG TERMINALS - DOUBLE POLE





Ш

ON

SOLDER LUG TERMINALS - THREE POLE

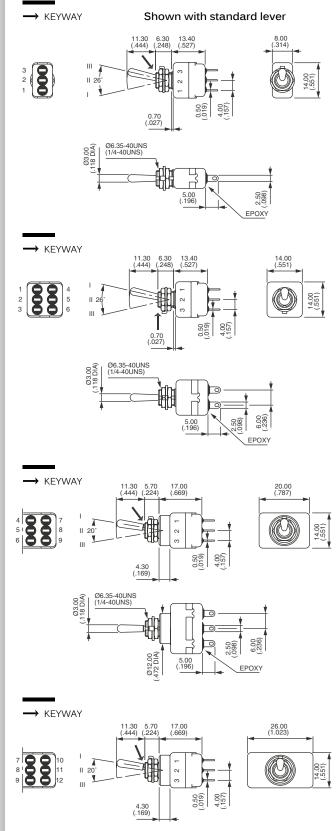


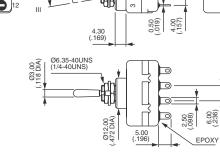
BASIC P/N	I	Ш	III
11156	ON	-	ON
11159	ON	OFF	ON
11157	MOM	OFF	MOM
11158	ON	OFF	MOM

SOLDER LUG TERMINALS - FOUR POLE

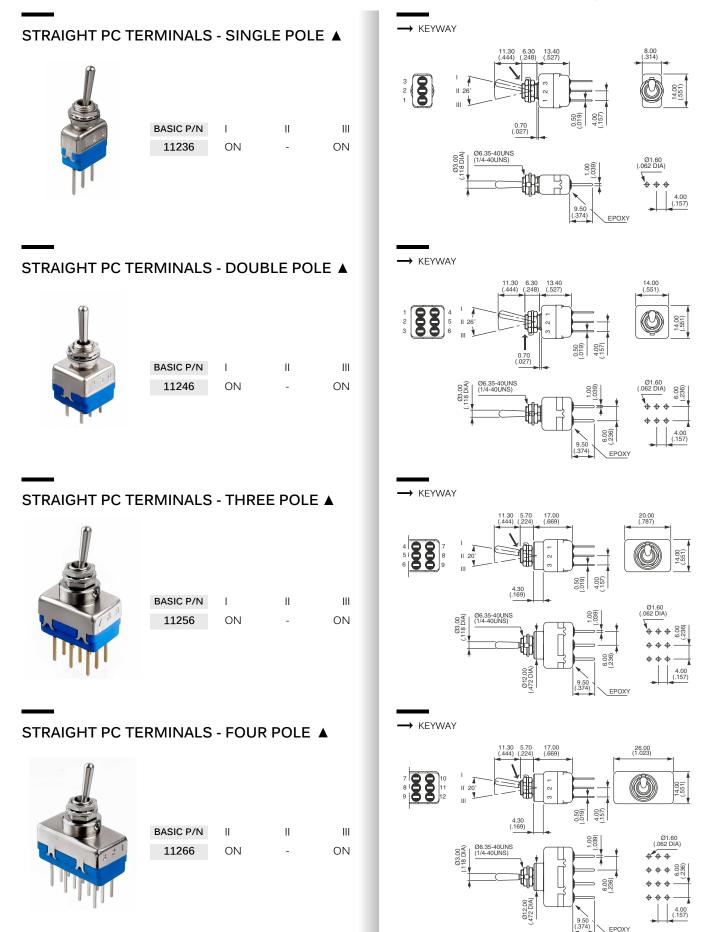


BASIC P/N	I	П	III
11166	ON	-	ON
11169	ON	OFF	ON
11167	MOM	OFF	MOM
11168	ON	OFF	MOM





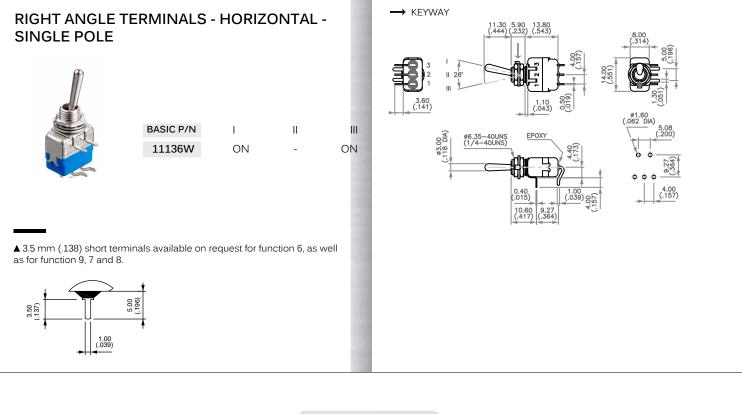
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5

EPOXY

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CONTACT MATERIALS				
BASIC P/N	······			
A Silver				

- AD2 Silver, gold plated (2 micron gold)
- D Solid gold rivet

See "Special options" for contacts X780 (solid silver/nickel rivet) and contacts X910 (for peak currents).

	FINISH
BASIC P/N	······

Blank Nickel plated

G Black finish on bushing, lever and hardware

Other finish, consult factory.

PANEL SWITCHES

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SEALING			
BASIC	P/N		
Blank K	Sealed terminals are standard. No sealing except standard Front panel sealing by one O-ring and sealing washer. Protects the switch against water and dust. Panel seal withstands 1 bar pressure and remains sealed even when switch is operated. (1) Not available on 11000W model. by two O-rings, see X408 under "Special options".	(417 DIA) (417 DIA) (417 DIA) (464 D	
	boots: see "Sealing boots" section of website	(1) O-ring (2) Sealing washer	
	LEVERS		
BASIC	P/N	······	
(<u>62</u> 2) 0022 Bla	nk Standard -26 Cylindrical	PTIONS	
BASIC			
X408 X780 X910	Front panel sealing by two O-rings. Flatted bushing for precise orientation. Protects the switch against water and dust. Panel seal withstands 1 bar pressure and remains sealed even when switch is operated. () Not available on 11000W model. Solid rivet - gold plated silver/nickel alloy contacts. Switches for peak currents - double pole - on request.	$\mathbf{X408}$	
	AGENCY APPROVAL		
BASIC	P/N		
CECC	CECC 96201-005 (high level - contacts X780) - CECC Availability: consult factory for details of approved m	odels.	

Marking: to order switches marked CECC, complete above box with "CECC".

Blank No agency approval required.

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