

80-1100-14

Rev. 10.8

SUPPLEMENT TO MANUALS:

- 80-1100-00
- 80-1103-00 (DCM)
- 80-1103-01 (Foundation Fieldbus)

# BECK<sup>®</sup>

## **BECK GROUP 11 AND 11E HAZARDOUS LOCATIONS ACTUATORS**

The instructions and procedures for Installation, Operation, Calibration and Maintenance for Beck Group 11 and 11E Hazardous Location Actuators are the same as listed in the above manuals, except for a few differences which are noted in this supplement.

Beck Group 11 Actuators are available certified for use in Class II, Division 1 & 2; Class III, Division 1 & 2; and ATEX Zone 22 hazardous dust area classifications.

Beck Group 11E Actuators are certified for use in Class I, Division 2; Class II, Division 1 & 2; Class III, Division 1 & 2; and ATEX Zone 2 & 22 hazardous gas and dust area classifications.

**IMPORTANT:** Read this Supplement and the Instruction Manual you received with your shipment prior to installing or performing any maintenance on your actuator(s).

**NOTE:** Wiring to or from this actuator, which enters or leaves the terminal enclosure, must utilize wiring methods suitable for Class 1, Division 2 Hazardous Locations, as appropriate for the installation.



TABLE 1

Model Series	Hazardous Location	Stall Protection Module (SPM) or Transformer Option	T-ambient <sup>†</sup>	Division T Code	Zone T Code
11E-1_	Class I, Div. 2, Group C,D Class I, Zone 2, IIB Class II, Class III	Either option	-30°C to 60°C	T4	T4
		None	-30°C to 70°C		
11-1_	Class II, Class III	Either option	-30°C to 60°C	T6	--
		None	-30°C to 70°C	T5	
11E-2/3_	Class I, Div. 2, Group. C,D Class I, Zone 2, IIB Class II, Class III	Either option	-30°C to 60°C	T3C	T3
		None	-30°C to 70°C		
11-2/3_	Class II, Class III	Either option	-30°C to 60°C	T4A	--
		None	-30°C to 70°C	T4A	
11E-4_	Class I, Div. 2, Group C,D Class I, Zone 2, IIB Class II, Class III	Either option	-30°C to 60°C	T3A	T3
		None	-30°C to 70°C		
11-4_	Class II, Class III	Either option	-30°C to 60°C	T4	--
		None	-30°C to 70°C		

<sup>†</sup>Low T-ambient is -50°C for all model types (11-/11E-2/3/4\_) with optional, low temperature operation equipment.



#### WARNING

EXPLOSION HAZARD—Substitution of components may impair suitability for Class I, Division 2.




#### CAUTION

Any alterations to the actuator could result in the invalidation of the hazardous area approval certification.

### Hazardous Location Actuators for Dust Area Classifications

These Group 11 actuators follow the same instructions as those presented in the appropriate manual (see cover page for listing). These actuators are approved for the Protection Methods and Concepts as detailed in Table 1.

#### CE-ATEX (Europe)

CE  II 3 D Ex tc IIIC T85°C–T130°C  
(T75°C–T120°C)\*  
IP66/IP68 (3m/48hr); Tamb=-30°C to 70°C  
(-30°C to 60°C)\*



See Table 2.

\*Ratings for models with an SPM or transformer option.

### Hazardous Location Actuators for Gas & Dust Area Classifications

Group 11E actuators follow the same instructions as those presented in the appropriate manual (see cover page for listing), with the exceptions noted on the following pages. These actuators are approved for the Protection Methods and Concepts as detailed in Table 1.

#### CE-ATEX (Europe)

CE  II 3 G Ex nCc IIB 130°C (T4)–180°C (T3)  
CE  II 3 D Ex tc IIIC T75°C–T120°C  
IP66/IP68 (3m/48hr); Tamb=-30°C to 60°C

See Table 2.

TABLE 2

Model Series	ATEX T Code		
	Group 11, Zone 22	SPM or Transformer Option	Group 11E, Zones 2 & 22
11-1__	T85°C	T75°C	130°C (T4), T75°C
11-2__ & 11-3__	T100°C	T90°C	145°C (T3), T90°C
11-4__	T130°C	T120°C	180°C (T3), T120°C

## Control End Cover



### WARNING

To reduce the risk of ignition of hazardous atmospheres and to avoid serious personal injury, disconnect all power to the actuator before removing the cover. Keep the cover tightly closed when in operation.

Group 11E actuators have a threaded Control End cover (see Figure 1). Prior to performing any procedure requiring access to the Control End, remove the cover by unscrewing it from the housing. HINT: To loosen the cover, place the shaft of a large screwdriver (or similar rod) between two of the lugs on the end of the cover and twist counterclockwise.

**NOTE:** Before replacing the cover, ensure that the o-ring is beyond the threads and against the face of the housing (see Figure 1, Rear View, Close-up).

After the applicable procedure has been completed, screw the cover clockwise back into the housing until the o-ring is compressed and the cover is tight (flush against the housing).

**NOTE:** The cover and housing threads are lubricated to permit easy removal and replacement of the cover. Do not wipe these threads clean. If it becomes necessary to replace the lubricant, use a thread lubricating compound such as Loctite Anti-Seize or equivalent.

## Handswitch

The Handswitch on Group 11E actuators is located on the Control End housing (see Figure 1). The functionality of the Handswitch is the same as described in the appropriate instruction manual.

Handswitches on Group 11E actuators are equipped with an auxiliary contact for "AUTO" mode annunciation. The factory default setting is a closed contact when the Handswitch is in the "AUTO" mode.



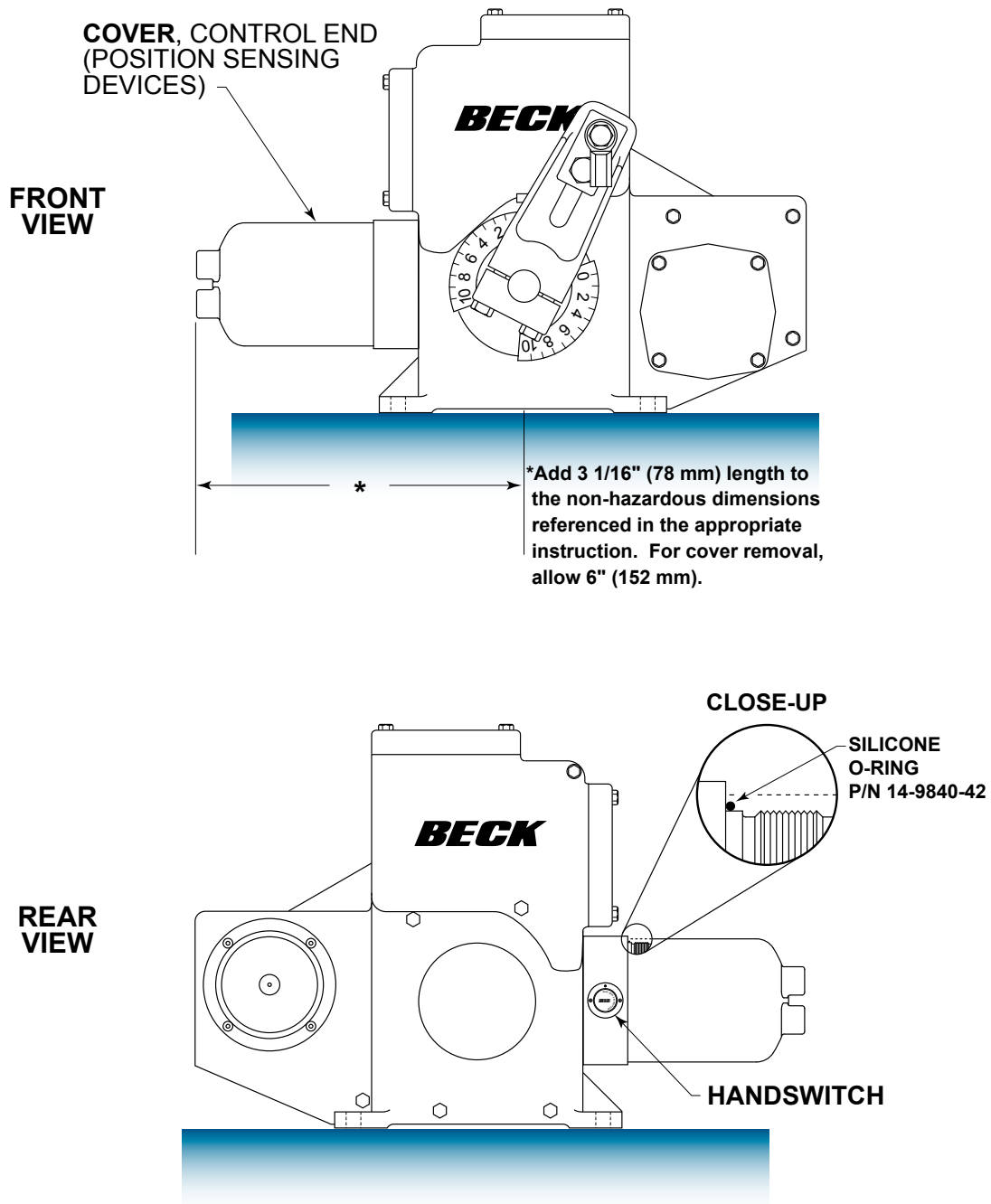
See the wiring diagram supplied with the actuator for complete wiring connection details.

## Resistor Assemblies & Capacitors

Most Group 11E actuators include a motor resistor assembly & capacitor assembly specifically designed for hazardous locations. The following table displays the resistor assembly part numbers (and associated capacitor assembly) for hazardous location operation and the equivalent ordinary location resistor assemblies and capacitors based on model type (as published in the manuals listed on the front cover).

Actuator	Motor			Capacitor			Resistor Assembly		
	Part No.	RPM	Freq. (Hz)	Hazardous Part No. (Assy)	Ordinary Part No.	Value (µf)	Hazardous Part No. (Assy)	Ordinary Part No.	Value (Ω)
11E-2_ & 11E-3_	20-2704-21	72	60	14-2845-05	14-2840-16	5	20-1971-63	20-1971-13	220
			50	14-2845-07	14-2840-19	7	20-1971-63	20-1971-13	220
	20-2705-21	72	60	14-2845-08	14-2840-05	8	20-1971-62	20-1971-12	110
			50	14-2845-10	14-2840-30	13	20-1971-62	20-1971-12	110
	20-2705-51	120	60	14-2845-09	14-2840-29	9	20-1971-64	20-1971-14	68
50			14-2845-10	14-2840-30	13	20-1971-65	20-1971-15	72	
11E-4_	20-2201-31	72	60	14-2845-15	14-2840-17	15	20-1971-53	20-1971-03	75
			50	14-2845-05 14-2845-15	14-2840-16 14-2840-17	5 15	20-1971-53	20-1971-03	75
	20-2201-32	72	60	14-2845-25	14-2840-15	25	20-1971-54	20-1971-04	37.5
			50	14-2845-08 14-2845-25	14-2840-05 14-2840-15	8 25	20-1971-54	20-1971-04	37.5
	20-2201-33	120	60	14-2845-25 14-2845-06	14-2840-15 14-2840-09	25 6	20-1971-56	20-1971-06	18
			50	14-2845-25	14-2840-15	25	20-1971-60	20-1971-10	24
				14-2845-08 14-2845-06	14-2840-05 14-2840-09	8 6			

**LOCATION OF CONTROL END COVER AND HANDSWITCH ON MODEL 11E ACTUATORS  
(MODEL 11E-200 SHOWN)**



**Figure 1**

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