REPLACING AN SE-125 WITH AN SE-135 GROUND-FAULT GROUND-CHECK MONITOR

The SE-135 Ground-Fault Ground-Check Monitor replaces SE-125 GF-GC Monitors. Improvements include maximum trailing-cable length, ground-fault filtering techniques, ground-check-trip diagnostics, control-voltage range, and set-point ranges. See Technical Note GC-05 Ground-Fault Ground-Check Comparison Sheet.

Table 1: Features Comparison

CHARACTERISTICS	SE-135	SE-125	SE-125DC	SE-125XA
Micro-processor-based	Yes	No	No	No
Control Voltage	60 - 265 Vac 80 - 370 Vdc	120 Vac or 240 Vac	120 Vac or 240 Vac	120 Vac or 240 Vac
Face-Plate and Remote Reset	Yes	Yes	Yes	Yes
Dimensions: H x W x D (mm)	226 x 114 x 152†	216 x 146 x 104	216 x 146 x 104	216 x 146 x 104
GF Harmonic Filter	Yes	No	No	No
GF Current Sensor	SE-CS10-series	CT200-series	CT200-series	CT200-series
GF Pickup (A)	0.5, 0.75, 1.0, 1.5...12.5	0.5, 2.0, 4.0	0.5, 2.0, 4.0	0.5, 2.0, 4.0
GF-Trip-Time Range (s)	0.1 - 2.5	0.1 - 2.0	0.1 - 2.0	0.1 - 2.0
GC Termination Assembly	SE-TA12A	SE-TA12A*	SE-TA12A*	SE-TA12A*
GC Nominal Voltage	30 Vdc	24 Vdc	24 Vdc	24 Vdc
GC Induced-ac Withstand (continuous)	60 Vac	25 Vac	25 Vac	25 Vac
GC Self-Test Function	Yes	No	No	No
GC Trip Mode	Latching/Non-Latching	Non-Latching	Non-Latching	Latching
GC Fuse Protection	1.5 A	0.5 A	0.5 A	0.5 A
Trip Contact Ratin (nominal)	8 A, 250 Vac	4 A, 240 Vac	3 A, 150 Vac	4 A, 240 Vac

† *SE-135 surface-mount dimensions.*

** Prior to 1995, SE-125 monitors were supplied with SE-TA12 Termination Assemblies. These monitors are compatible with the SE-TA12A*

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Monitor Installation

Refer to SE-125 and SE-135 manuals. Table 2 shows SE-125 and SE-135 terminal equivalents. Figure 1 shows SE-125 and surface-mount SE 135 dimensions and wiring connections. Differences in terminal locations may require longer conductors. Note the larger SE 135 depth dimension (D) from Table 1. SE-125 and SE-135 monitors have remote-indication contacts and reset connections, and the SE-135 can be panel mounted so that face-plate indication is visible and controls are accessible. The SE-135 ground-check fuse is located on the bottom of the relay and requires 29 mm (1.13") clearance below the surface-mount adapter for fuse access. Where tolerances are close, a surface-mounted SE 135 can be easily disconnected from the surface-mount adapter if it is necessary to replace a ground-check fuse. For SE-125XA-type latching ground-check trips, connect SE-135 terminals 14 and 15. For trip-relay shunt-trip (SH) operating mode, connect SE-135 terminals 12 and 13.

Table 2: Terminal Equivalents

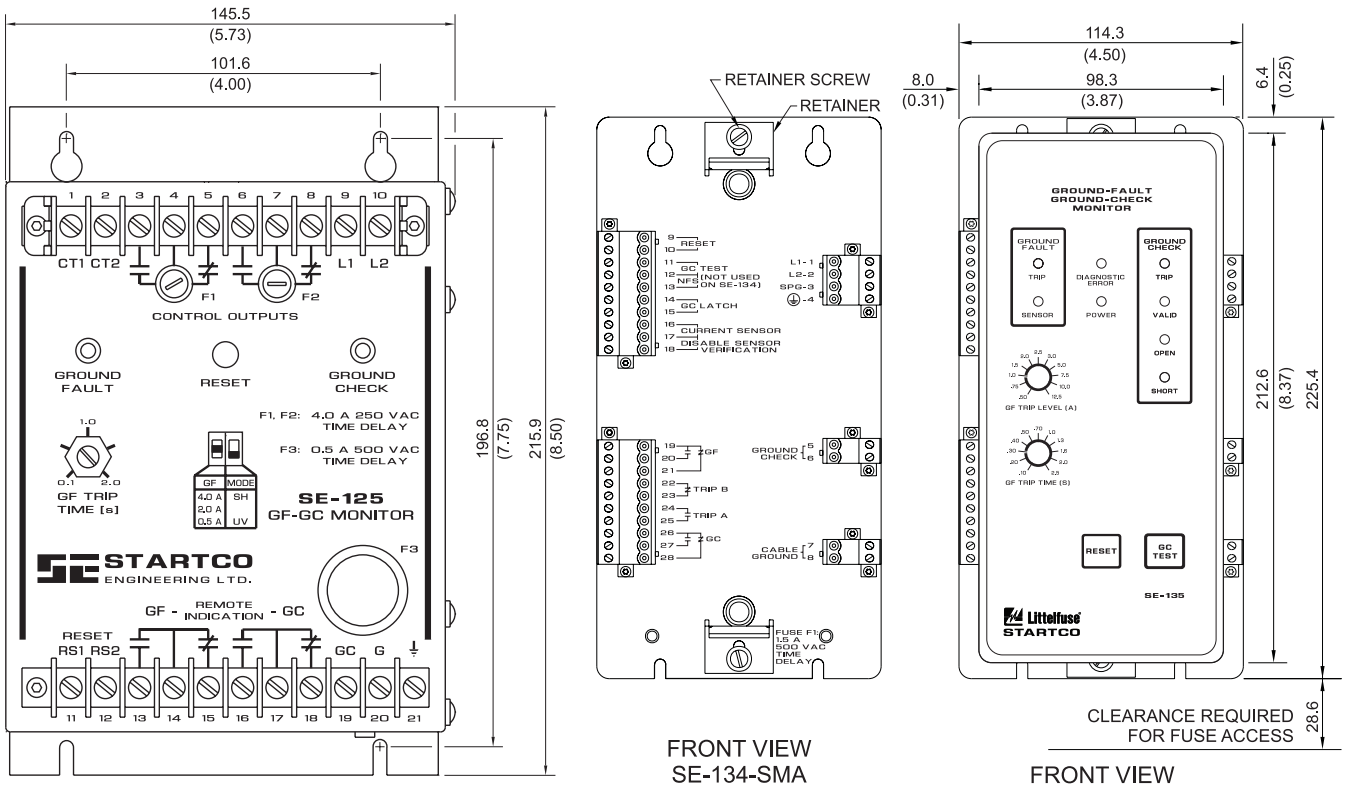
CONNECTION TERMINAL	SE-125	SE-135
CT Inputs	1, 2	16, 17
Trip Contacts	3, 4, 5, 6, 7, 8*	22, 23, 24, 25
Control - L1, L2	9, 10	1, 2
Reset	11, 12**	9, 10**
GF Indication	13, 14, 15	20, 19, 21
GC Indication	16, 17, 18	27, 26, 28
Cable GC	19	5, 6
Cable G	20	7, 8
Case Gnd	21	4
SPG	n/a	3
NFS	n/a	12, 13
GC Test	n/a	11, 12
GC Latch	n/a	14, 15
Sensor Verify	n/a	18

**An SE-125 has two Form-C trip contacts that operate simultaneously according to the face-plate Mode switch. An SE-135 has isolated N.O. and N.C. trip contacts that operate according to the connection of terminals 12 and 13. Consult the application wiring schematic.*

*** CAUTION: SE-125 Remote-Reset input is rated 24-120 Vac/Vdc. SE-135 Remote-Reset input is DRY CONTACT ONLY.*

REPLACING AN SE-125 WITH AN SE-135 GROUND-FAULT GROUND-CHECK MONITOR

Figure 1: SE-125 and SE-135 Outline and Surface-Mounting Details



Termination Assembly:

Both SE-125 and SE-135 Ground-Fault Ground-Check Monitors use the SE-TA12A Termination Assembly. Prior to 1995, SE-125's used an SE-TA12 Termination Assembly. These older relays are compatible with the upgraded SE-TA12A; replace SE-TA12's when changing to an SE-135. Mounting dimensions of the two assemblies are identical.

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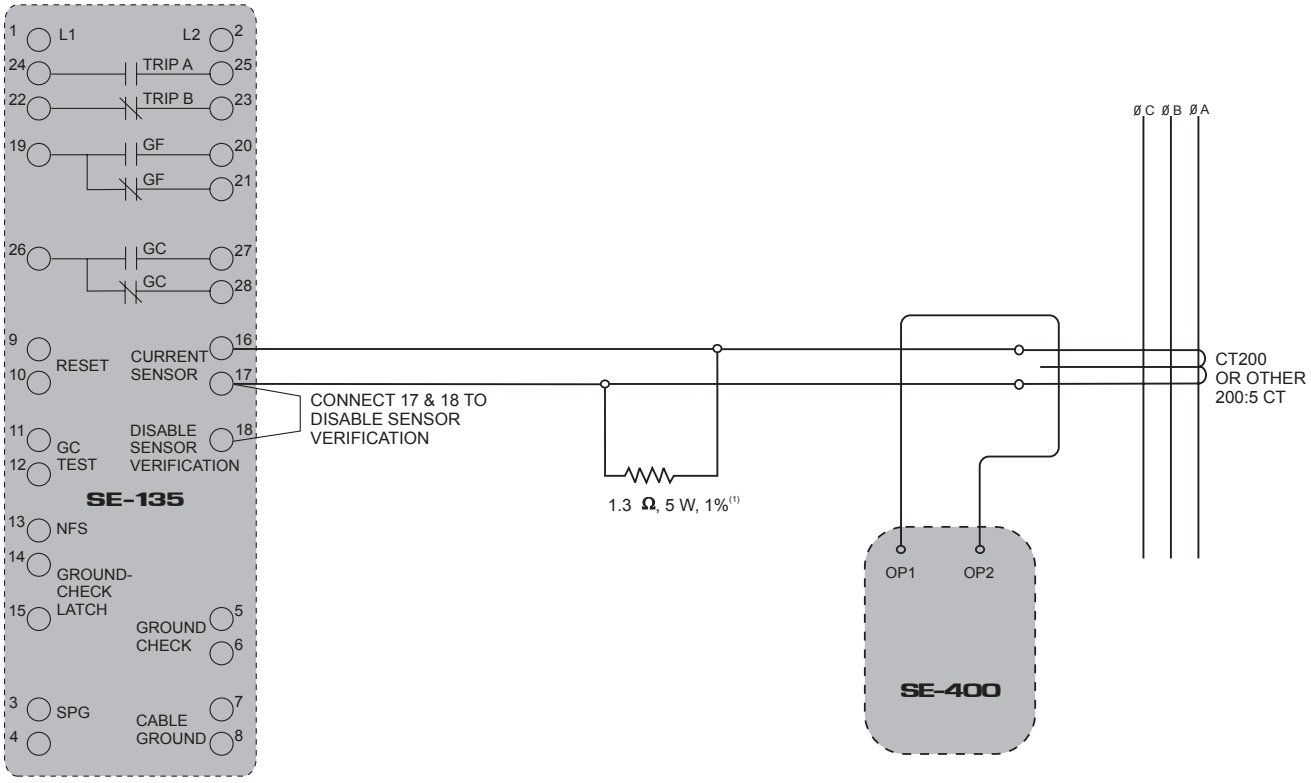
Current Transformer:

For ground-fault current measurement, SE-125's use a CT200-series current transformer and SE-135's use an SE-CS10-series current sensor. Most SE-125 replacements should include replacing the CT200 with an SE-CS10. However, for those applications in which CT-replacement is difficult, an externally-mounted 1.3-ohm 5-W shunt resistor[1] can be installed across the SE-135 current-sensor input to scale the CT200 output. Disable the sensor-failure detection circuit by connecting terminals 17 and 18. See Fig. 2. When this adaptation is used, confirm proper SE-135 ground-fault operation by testing with CT-primary current injection. An SE-400 Ground-Fault-Relay Tester can be used as the current source, as shown.

Figure 2: SE-135 Using a CT200



[1] *Littelfuse Startco Part Number RWW013G5000JA*