TRIGA Life Safety Systems, LLC
7600 Olde Eight Rd, Hudson, Ohio, 44236-1057
Tel: +1 330-577-5199, Email: info@trigaglobal.com

TR-INT50W
Internal Amplifiers
Product Installation Document

PN LS10119-003TR-E:A 04/30/2021 ECN: 151608

1 Description

The TR-INT50W Internal Amplifier can fit inside the Triga Series cabinet. It is used to amplify the audio message for distribution throughout the facility for the Emergency Communication System.

NOTE: The installation and wiring of this device must be done in accordance with the NFPA 72 and local ordinances.

1.1 Compatibility

- TR-2100
- TR-2100ECS

NOTE: For more information, refer to the FACP Installation Manual or Triga Series, ECS Manual PN:LS10262-002TR-E.

2 Installation Board Layout and Mounting

Figure 1 shows the TR-INT50W front view board layout.

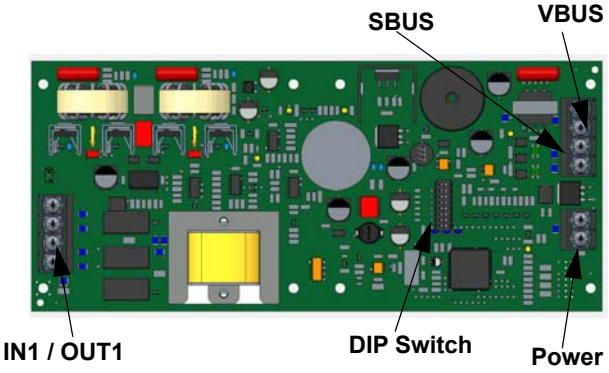


Figure 1 TR-INT50W Front View

2.1 Mounting the TR-INT50W

To mount the TR-INT50W, refer to the following steps.

1. Remove the AC power and disconnect the backup batteries from the main control panel.
2. To mount the TR-INT50W inside the FACP cabinet under the main board, align the board with the mounting holes.
3. Secure the board to the enclosure with the supplied screws. See Figure 2.

Figure 2 shows the TR-INT50W board mounted in the FACP cabinet under the main control board.

Figure 2 TR-INT50W mounted in the FACP Cabinet under the Main Control Board

4. When you mount the TR-INT50W in the ECS cabinet that contains a ECS-NVCM, it is necessary to mount the TR-INT50W on the right side of the control board.

   To do this, use the ECS-AMPMT mounting kit (ordered separately).
5. Mount the ECS-AMPMT into the cabinet using the six supplied screws. Position the board with the “Top” side up. (See Figure 3).
6. Secure the TR-INT50W onto the six standoffs, ensure the two coil parts are placed at the top, and on the right side of the ECS-AMPMT. See Figure 3 for the coil position.

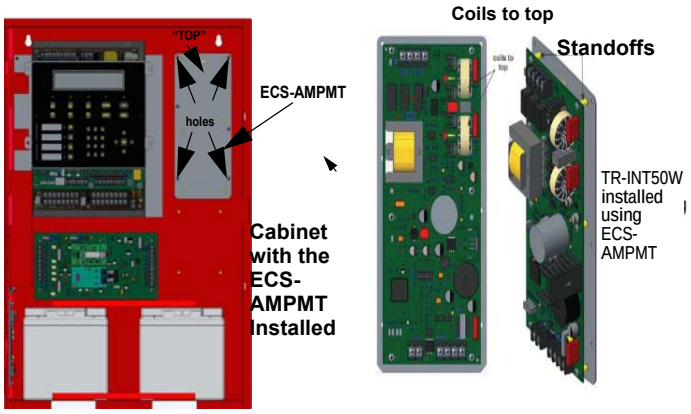


Figure 3 Mounting the TR-INT50W

3 Specifications

Standby Current:	52mA
TR-INT50W only Alarm Current:	@ 25V 275mA; @ 70V 310mA
Full Alarm load current:	@ 25V 2840mA; @ 70V 2900mA

4 Wiring to the FACP

To properly wire the TR-INT50W to the FACP, see Figure 4. The Internal Amplifier must be powered by a NAC programmed as a Constant Auxiliary Power. For additional information, refer to the document in Section 1.1.

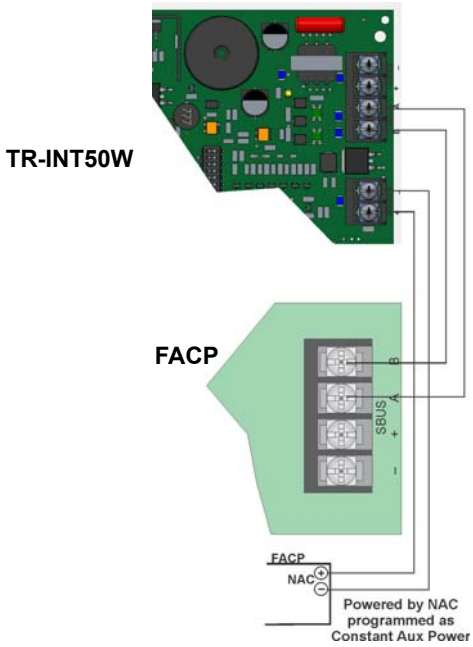


Figure 4 Wiring the TR-INT50W to the FACP

4.1 VBUS Wiring

The VBUS is an analog voice bus that broadcasts the recorded voice messages from the ECS-NVCM to the TR-INT50Ws, or the voice messages generated from a system microphone to the TR-INT50W. The maximum resistance on the VBUS is 20Ω.

Connect the VBUS from the ECS-NVCM to the VBUS on the ECS-INT50Ws as shown in Figure 5. VBUS Connection from the ECS-NVCM to the VBUS on the ECS-INT50W is shown in Figure 5.

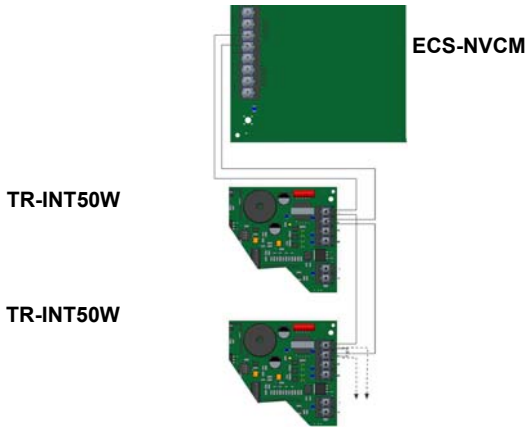
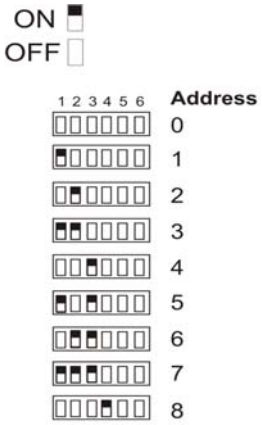


Figure 5 VBUS Wiring for the ECS-NVCM

5 Setting the Device Address

Use the onboard DIP switches to select an ID number assigned to the TR-INT50W. To determine how to set the DIP switches assigned to the desired ID number, refer to Figure 6.



*Note: Address 0 cannot be used.

Figure 6 DIP Switch

After the ID number is set, use programming to add the TR-INT50W to the System.

NOTE: Since the TR-INT50W is powered by a NAC, it will not be found using the JumpStart Auto-Programming.

6 Speaker Wiring

Each TR-INT50W supplies one circuit for speaker connection. The speaker circuit can be supervised and wired Class B or Class A. The speaker circuit provides 50 watts of power at 25 Vrms or 70.7 Vrms. Refer to Table 1.

Number Of Speakers		Total Load		Wire Distance in Feet			
@ ½ W	@1W	Vrms	Watts	18 AWG	16 AWG	14 AWG	12 AWG
10	5	25Vrms	5W	3900	6200	9860	15680
		70Vrms		25000	39700	63200	100520
20	10	25Vrms	10W	2125	3380	5375	8540
		70Vrms		15200	24150	38400	61100
30	15	25Vrms	15W	1460	2320	3690	5870
		70Vrms		11000	17500	27800	44200
40	20	25Vrms	20W	1100	1750	2780	4420
		70Vrms		8500	13510	21500	34175
52	26	25Vrms	26W	760	1200	1920	3050
		70Vrms		6100	9700	15400	24520
80	40	25Vrms	40W	550	875	1390	2200
		70Vrms		4100	6500	10360	16480
100	50	25Vrms	50W	450	715	1130	1800
		70Vrms		3500	5560	8850	14070

Table 1 Wire Lengths

NOTE: The wire lengths in Table 1 are based on a uniform distribution of the speakers, and that a maximum of 20% voltage drop on the last speaker is allowed.

Figure 7 illustrates how to wire speakers to the control panel using the Class B or Class A supervision.

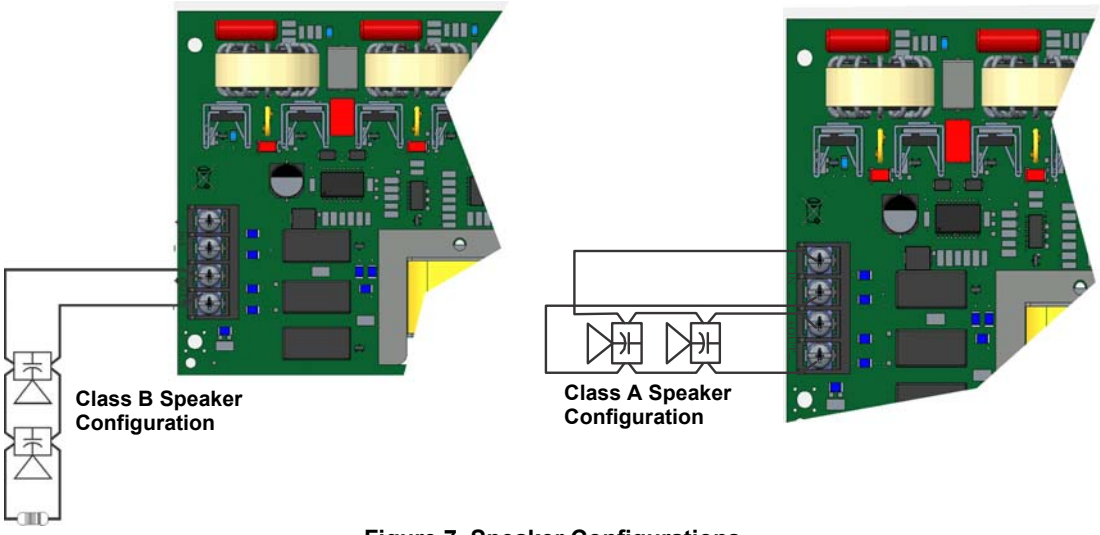


Figure 7 Speaker Configurations

6.1 Compatible 520Hz Signaling Speakers

For a list of the compatible 520 Hz signaling speakers, refer to the FACP Installation Manual.