

For the SPEEDCHECK-15 and SPEEDCHECK-18



88764_INSTALL-GUIDE_SPEEDCHECK-15-18-AI-Integration-Kit_RevF



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1.0 Warnings and Precautions

The following symbols indicate important safety warnings and precautions throughout this guide:



WARNING indicates that serious bodily harm or death may result from failure to adhere to the precautions.



NOTE

CAUTION

NOTE suggests optimal conditions and provides additional information.

1.1 Warranty Disclaimer

This manual will familiarize you with the features, operation standards, and installation of Carmanah's SPEEDCHECK-15/18 Applied Information (AI) Integration Kit. Failure to comply with the use, storage, maintenance, installation or placement instructions detailed in this manual could void the warranty.

1.2 Standards

Perform all installation, wiring, grounding and maintenance in conformance with local building and electrical codes. Adherence to the National Electrical Code (NEC) is mandatory to comply with any certification markings. Non-adherence to code may void the warranty.

1.3 Safety and Usage Precautions



Batteries are shipped fully charged. Use extreme caution when handling the batteries as they can generate hazardous short-circuit currents. Remove all jewelry (bracelets, metal-strap watches, etc.) before entering the cabinet.

Solar panels produce DC electricity when exposed to light and can therefore produce an electrical shock or burn. To render solar panels inoperative, remove them from sunlight or fully cover their front surface with an opaque material.

Before lifting any heavy or bulky equipment, ensure the load is secured so moving parts do not shift, and that it can be lifted as far as needed without back strain or loss of grip. Installation may require more than one person.

Ensure the equipment is not powered during installation and wiring of the system.





Recheck all completed wiring for proper polarity prior to energizing the system.



Changes or modifications to Carmanah equipment not expressly approved by Carmanah could void both the user's authority to operate the equipment and the warranty.



Product can have sharp edges. Accidental movement of hinged components can cause injury.

1.4 Applications

For Carmanah SPEEDCHECK-15/18 radar speed signs, the AI Integration Kit allows for remote system monitoring, scheduling and control.



Installation of the external input harness is only required if you need to remotely control beacons that are connected to the SpeedCheck radar speed sign via Glance. See <u>Appendix A</u> for more information.



2.0 System Components

The SPEEDCHECK-15/18 Applied Information (AI) Integration Kit consists of the following items:

 Harness, serial, SpeedCheck to Al, 16' (1) Harness, ground, 16' (1) Harness, Al 16-pin to terminal block (1) Harness, Al 4-pin to terminal block (1) Harness, DC input power to terminal block (1) Door switch and harness, G Series cabinet (1) Label, Input/Output to terminal block (1) Adapter, 90°, SMA male to SMA female (2) Rivet, 1/8", aluminum (2) Screw, cap, security, pin-in hex (2) Screw, machine, #8-32 x 3/8" Phillips (4) 	 12. Screw, machine, #10-32 x 3/8", Phillips (2) 13. Washer, flat, #8 (1) 14. Washer, flat, #10 (4) 15. Washer, lock, #10 (2) 16. Standoff, #10-32 x 5/8", female, aluminum (2) 17. Tie mount, push barb (3) 18. Cable tie, mounting base, ³/₄ x ³/₄" (3) 19. Cable tie, 4" (18) 20. Cable tie, 7", #8 screw mount (1) 21. Barrier block, 8-position (1) 22. Install guide, Al Integration Kit (1) 23. Adapter, harness, Al 070B to 030/070C (1)
--	--



The Applied Information AI-500-070B and AI-500-030 (monitoring only) are supported with SPEEDCHECK-15/18 systems. Modem supplied separately.



3.0 Tools and Materials Required

The following tools and materials may be required to install the AI Integration Kit into your SPEEDCHECK-15/18 system:

- 1. Drill and ¹/₂" drill bit
- 2. Deburring tool or similar
- 3. Crescent wrench
- 4. Side cutter
- 5. Rivet installation tool with nosepiece for 1/8" diameter rivet
- 6. Multi-bit screwdriver
- 7. Electrical multimeter

Door Switch (optional):

- 1. Loctite 220 threadlocker or similar
- 2. ANSI #9 drill bit (0.196" diameter)
- 3. 5/32" tamper-resistant hex screwdriver bit



4.0 SPEEDCHECK-15/18 Cabinet Installation

4.1 Antenna

- 1. Remove power to the system. For AC-powered systems, turn off the circuit breaker in the cabinet and for solar-powered systems remove the battery and solar fuses.
- 2. Use the indentation in the center of the cabinet to locate the tip of the drill bit. Drill a ¹/₂" hole on top of the enclosure. Deburr hole and remove all aluminum chips.





Ensure the equipment is not powered during installation. Recheck all wiring prior to energizing the system.



Ensure all metal chips are removed to prevent system damage caused by short circuits.



Ensure that no burrs are present that would prevent the antenna from making a good seal with the top of the cabinet.



3. Route antenna coax connector cables into enclosure hole and through plastic washer, lock washer, and nut. Tighten nut securely using crescent wrench.





- 4. Install one cable tie base in the location noted below.
- Route coax cables from antenna to cable tie mount and loop 1.5 times in a counter-clockwise direction.
 Fasten coax to cable tie mount with one cable tie. Twist the cable so the connector ends exit to the right-hand side.





4.2 Door Switch Kit (Optional)

- 1. Use the indentation marks below to locate the drill holes.
- 2. Drill two 0.196" diameter holes as noted using a #9 ANSI drill bit.
- 3. Deburr the holes on the outside and inside to remove all aluminum chips.





Ensure all metal chips are removed to prevent system damage caused by short circuits.



- 4. Apply Loctite 220 threadlocker to two standoffs.
- 5. Assemble standoffs to the inside of the cabinet using two security screws and two flat washers.
- 6. Fasten the long wire from door switch to slots with two cable ties. Leave loose/untrimmed for now.
- 7. Install door switch to the standoffs using two screws, two lock washers, and two flat washers.
- 8. Center switch front/rear in slots and tighten. No Loctite threadlocker is required for this step.



NOTE

The terminal on the end of the long door switch wire gets installed into the Applied Information (AI) harness connector in a later step.

- 9. Install ring terminal from door switch onto top Battery/DC Power RD + fuse holder terminal.
- 10. Install two cable tie bases as shown below. Fasten the long wire from door switch to the two cable tie bases. Leave loose/untrimmed for now.





- 11. Insert terminal from door switch harness into Position 2 of AI harness connector. Orient terminal same way as other terminals present in connector. Tug to confirm it's fully inserted.
- 12. Tighten and trim all cable ties from previous steps.



NOTE

Connector terminal shown uncrimped. Crimp wings will be bent over wire strands.

4.3 AI-500-070B Field Control Unit (FCU)

- 1. Thread two 90° coax adapters onto antenna connectors. Orient as shown (facing upward when installed into cabinet).
- 2. Fasten AI-500-070B into cabinet using four screws.
- 3. Thread coax adapters onto AI-500-070B connectors. Match GPS & LTE labels on antenna harness & AI-500-070B (Cell closer to front, GPS closer to back).
- 4. Route the coax cables between the AI-500-070B and antenna neatly. Avoid sharp bends in the coax cable. Keep coax cable away from sharp edges.
- 5. Mate 16-pin and 4-pin connectors to AI-500-070B connector.









4.4 Solar Version Only

- 1. Install three cable tie mounts. Press into ¼" holes near the bottom of the mounting plate and orient vertically.
- 2. Install 8-position terminal block with two rivets.
- 3. Install 4x3" label by aligning horizontal lines on label with terminal block dividers.
- 4. Install DC input power harness to terminal block as shown. Fasten DC input power harness to cable ties mounts with 2 cable ties.
- 5. Install yellow ring terminal from 16-pin AI harness over existing Solar + ring terminal.
- 6. Route yellow wire alongside other harness wires.







Install two ring terminals with crimp towards chassis to make terminal stacking easier.

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- 7. Install white, black and orange wires of 4-pin AI harness to terminal block.
- 8. Install violet, blue, red and black wires of 16-pin AI harness to terminal block. Set green wire from 16-pin AI harness aside for now.
- 9. Route yellow solar wire from previous step as shown below.
- 10. Install two cable ties around all wires and one cable tie near the fuse holders.







The wires above go to the 16-pin and 4-pin connectors and connect to the AI-500-070B.

NOTE

Stack the red and black terminals of the AI harness on top of the red and black terminals from the DC input power harness.



4.5 AC Version Only

- 1. Install two cable tie mounts. Press into ¼" holes near the bottom of the mounting plate and orient vertically.
- 2. Install two cable tie mounts. Press into ¼" holes near the bottom of the mounting plate and orient horizontally.
- 3. Rotate cable tie mount closest to DC Input Power and orient horizontally.
- 4. Install 8-position terminal block with two rivets.
- 5. Install 4x3" label by aligning horizontal lines on label with terminal block dividers.
- 6. Install DC input power harness to terminal block.
- 7. Fasten DC input power harness to cable tie mounts with three cable ties.





- 8. Install white, black, and orange wires of 4-pin AI harness to terminal block.
- 9. Install yellow, violet, blue, red, and black wires of 16-pin AI harness to terminal block.
- 10. Set green wire from 16-pin AI harness aside for now.
- 11. Install cable tie around all wires.



NOTE

The wires above go to the 16-pin and 4-pin connectors and connect to the AI-500-070B.

NOTE

Stack the red and black terminals of the AI harness on top of the red and black terminals from the DC input power harness.



Yellow wire is for solar monitoring and is not use for AC configurations. Attach yellow wire to unused terminal position.



5.0 SPEEDCHECK-15 Installation



5.1 Serial Harness

You will receive one of the following configurations below. This will affect how and where the cable is connected to the associated controller. Images in this section may differ from your system.

- Legacy controller and serial cable (3 wire)
- Legacy controller and serial cable (4 wire) with locking levers removed. Remove levers if present.
- Updated controller and serial cable (4 wire)



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- 1. See "Accessing Internal Components" section of the SPEEDCHECK-15 user manual to allow access to the SpeedCheck controller circuit board. This can be found at <u>support.carmanah.com</u>.
- 2. Remove the junction box lid. Route black connector end of serial harness and ground wire harness through conduit connector, into junction box and down into chassis.



- 3. Carefully cut and remove the 7 cable ties shown below.
- 4. Insert 7 supplied cable ties into holders but do not do them up yet.







- 5. Route ground harness from junction box along input power cable to lower DIN rail stud.
- 6. Remove nyloc nut from lower DIN rail stud.
- 7. Install ground harness ring terminal, flat washer and nyloc nut.
- 8. Orient ground terminal as shown and tighten securely.
- 9. Route ground harness back alongside DC power harness to junction box.



- 10. Pull enough slack from the 10-pin serial harness to reach the circuit board.
- 11. Mate serial harness connector to 10-pin circuit board connector with connector key oriented as shown.
- 12. Route serial harness alongside radar harness and fasten to cable tie base with one cable tie. Before tightening/trimming cable tie, ensure serial connector is fully mated and at 90° to the control board. The connector is keyed and can only go in one way.





Legacy controller with 3-pin serial cable





Ensure connector is vertical.

Legacy controller with 4-pin serial cable





5.2 External Input Harness (Optional)

This harness is only required for systems equipped with flashing beacons which need to be controlled remotely via Glance.

1. If external beacons are installed mate external input harness to the input terminal location shown below.



NOTE



5.3 Harness Routing

- 1. Route serial harness alongside input power harness. If applicable route the external input harness in the same manner.
- 2. Install cable ties around input power harness and any other harnesses present.
- 3. Tighten and trim cable ties.



4. Reinstall junction box cover and tighten its two screws.





6.0 SPEEDCHECK-18 Installation



6.1 Serial Harness

- 1. Route ring terminal end of ground harness and black connector end of serial harness through the conduit fitting already containing the power harness.
- 2. Remove radar mounting screw.
- 3. Insert radar mount screw through a flat washer, then through the ground harness ring terminal. Orient ring terminal as shown and reinstall screw.





- 4. Pull enough slack from the 10-pin serial harness to reach the circuit board.
- 5. Mate serial harness connector to 10-pin circuit board connector with connector key oriented as shown.



- 6. Route serial harness alongside radar as shown. Fasten serial harness to radar harness with three cable ties.
 - a. Leave cable ties loose if installing the external input harness in <u>Section 6.2</u>, otherwise ensure serial connector is fully mated at 90° to control board and tighten/trim cable ties.





Legacy controller with 3-pin serial cable



NOTE

Ensure connector is vertical.

Legacy controller with 4-pin serial cable





6.2 External Input Harness (Optional)

This harness is only required for systems equipped with flashing beacons which need to be controlled remotely via Glance.

- 1. If external beacons are installed mate external input harness to the input terminal location shown below.
- 2. Tighten/trim cable ties from <u>Section 6.1</u>.



NOTE



7.0 SPEEDCHECK-15/18 Cabinet Final Instructions

7.1 Final Harness Routing

- 1. Tighten/trim cable ties from Section 6.1 for SPEEDCHECK-18 system if not done in Section 6.2.
- 2. Route the ground, serial cable, external input cable (if applicable) and power harness from the sign through conduit and pole to the cabinet.
- 3. Install serial and power harness wires to the open right side of the terminal block.
 - a. If applicable install the external input harness as well.
 - Yellow = no wire terminated (AC systems only)
 - White (RX) = serial harness white
 - Black (GND) = serial harness black
 - Orange (TX) = serial harness orange
 - Violet (B. CTRL.) = external input harness red wire with violet heat shrink
 - Blue (ALARM) = serial harness blue
 - Red (DC+) = input power harness red
 - Black (DC-) = input power harness black & external input harness black



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- 4. Cut and remove the screw-mount cable tie holder and replace with the new one.
- 5. Route the ground harness from the sign to the stud and stack with the other ground terminals.
- 6. Install the new screw-mount cable tie holder and tighten around the two (or more) ground wires.





7.2 Testing AI-500-070B

- 1. Ensure AI serial number has been activated.
- 2. Set toggle switch to "AUTO".
- 3. Ensure connectors are properly mated on the bottom of the AI-500-070B.
- 4. Confirm correct wiring and power-up system by connecting the DC power, installing fuses, and turning on the AI power switch.
- 5. On your PC, open a browser and navigate to the Glance website:

a. glance.appinfoinc.com

- 6. Log in using the credentials provided by AI or the distributor you purchased the equipment from.
- 7. On the upper left side of the browser, select the device name that matches the Device ID (the ID number labelled on the AI-500-070B).





Ensure the equipment is not powering during installation. Recheck all wiring prior to energizing the system.



- 8. Ensure that the "Current Status" indicates "Online".
- 9. Ensure "Current Device Status" is "OK".
- 10. If the door switch sensor is installed, ensure that the "Cabinet Door" status reflects the current position of the door. Open and close the door to change the switch state and confirm Glance reflects the change.
 - a. Door open = Open
 - b. Door closed = Closed
- 11. Contact Applied Information to arrange the firmware in the AI unit to be programmed correctly, if this hasn't already been done.
 - c. Phone: 678.830.2170
 - d. Email: <u>support@appinfoinc.com</u>
 - e. Web: appinfoinc.com

« Prev Next » Carmanah 9876	
Current Status -	Online
Current Alarms :	
Current Schedule:	Schedule 1
Power Status :	No AC
Current Device Status :	ок <
Timezone :	-7 Hours
Time Since Last Contact :	24 Minutes 6 Seconds 7/8/2019 9:47:54 AM

	Now
System Voltage (V DC)	13.3
Solar Array Voltage (V DC)	23.4

	Status	
Cabinet Door	Closed	
Lamp Fault	OK	
Beacon Status	Central Override - ON	
	Inputs	
	Status - Override is Active	
Beacon Control		

Schedule

	Analog				Inputs	
Date	System Voltage	Solar Array Voltage	RRFB Activations	Temperature	Cabinet Door	RRFB Activation State
July 22, 2020 15:45:22	12.3	0.0	0	25	OPEN	
July 22, 2020 15:42:51	12.3	0.0	0	23	Closed	



8.0 Appendix A – External Input Harness



This beacon configuration will not work with the AI-500-070 or AI-500-071 and must be used with the AI-500-070B.



This harness is only required if you need to remotely control beacons that are connected to the SpeedCheck radar speed sign via Glance.



The controller can be damaged if voltage is applied to the external trigger input of the SpeedCheck controller. Take note when terminating the cable in Section 7.1.



See the appropriate sections below to install the external input harness:

For SPEEDCHECK-15:

Installation instructions found in Section 5.2. •

For SPEEDCHECK-18:

Installation instructions found in Section 6.2. •

For all models:

Final cabinet wiring found in Section 7.1. •



9.0 Appendix B – Beacon Configuration



Mode 1 = schedule off

Mode 2 = scheduled on

The "Mode 2" settings cannot be remotely updated via Glance and must be programmed locally on site via SpeedCheck Manager.

For remote beacon programming you can configure the system with the following parameters:

- Display off and beacons off when not scheduled (aka stealth mode)
- Display on and beacons off when not scheduled

Configuration – display off and beacons off when not scheduled

1. See the chart below for typical settings. Click "Apply" when completed on each tab to save the settings.

SpeedCheck Manager Function	Tab	Mode	Setting	Description
Operating Mode Select Method	Device Setup		Select Via External Input	Enables remote triggering for beacon(s)
Output Function A & B	Device Setup		Flash	Enables the beacon(s)
Sync	Device Setup		Alt B with A	Alternates beacon 1 and 2 in a wig-wag flash. Choose Sync B to A for unison.
Display	Operating Modes	Mode 1	Off	Display off when not scheduled
Speed Limit	Operating Modes	Mode 1	Normal Speed Limit value	
Violation Alert Speed	Operating Modes	Mode 1	Normal Violation Alert speed value	Typically Speed Limit + 1
Slow Down Speed	Operating Modes	Mode 1	Normal Slow Down speed value	Typically Speed Limit + 5
High Speed Cutoff	Operating Modes	Mode 1	Normal High Speed Cutoff value	Typically Speed Limit + 20
Minimum Speed	Operating Modes	Mode 1	Normal Minimum Speed value	Typically Speed Limit - 5
Output A	Operating Modes	Mode 1	99	Beacon(s) off when not scheduled
Output B	Operating Modes	Mode 1	99	Beacon(s) off when not scheduled
Display	Operating Modes	Mode 2	On	Display on when scheduled
Speed Limit	Operating Modes	Mode 2	Reduced Speed Limit value	
Violation Alert Speed	Operating Modes	Mode 2	Reduced Violation Alert speed value	Typically reduced Speed Limit + 1
Slow Down Speed	Operating Modes	Mode 2	Reduced Slow Down speed value	Typically reduced Speed Limit + 5
High Speed Cutoff	Operating Modes	Mode 2	Reduced High Speed cutoff value	Typically reduced Speed Limit + 20
Minimum Speed	Operating Modes	Mode 2	Reduced Minimum Speed value	Typically reduced Speed Limit - 5
Output A	Operating Modes	Mode 2	0	Beacon(s) on when scheduled
Output B	Operating Modes	Mode 2	0	Beacon(s) on when scheduled



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ile View Tools Help			File View Tools Help	
Annected To: SPEEDCHECK-1 SpeedCheck evice Setup: System Operating Mode Select Method: Continuous Select Va External Input Use Scheduler SLOW DOWN Message Son Off Factory Settings	5-TS Close Come Select Via External Input Iodes Jotata Collection A A (Fash ✓ B: Flash ✓ Sync ○ O Sync B to A ● ● At B with A ● IED Drive Current ● 10 mA 20 mA Violation Alet ● Rate (FPM): 30 ÷ Corection Factor: 0 ÷	Action Establish Connection	Connected To: SpeedCheck Select Va External Input Device Setup System Operating Mode Data Collection Mode 1 Mode 2 Display: Off Off High 1 Data Collection: On On High 1 Data Collection: On On Minimum D Speed Limit: 30 20 Out Validation Alert Speed: 31 21 Out SLOW DOWN Speed: 35 25 Appl	Mode 1 Mode Speed Cutoff: 50 40 inplay Speed: 25 15 put A Speed: 99 0 put B Speed: 93 0

2. Log into Glance and set the following. Click Publish Radar when done.

Glance Function	Screen	Setting	Description
Beacon Control	Main	Schedule	
Sign Mode	Radar	On With Beacon	Display on when scheduled
Speed Offset	Radar	00	
Speed Limit Radar Same as Mode 1 in		Same as Mode 1 in SpeedCheck Manager	
Minimum Speed/Steady Speed	Radar	Same as Mode 1 in SpeedCheck Manager	
Flash Speed	Radar	Same as Mode 1 in SpeedCheck Manager	Flash Speed = Violation Alert speed
Slow Down	Radar	Same as Mode 1 in SpeedCheck Manager	
Red and Blue	Radar	Same as Mode 1 in SpeedCheck Manager	Red and Blue = Output A/Output B
Max Speed	Radar	Same as Mode 1 in SpeedCheck Manager	

- 3. Set your schedules, holidays, and exceptions. Ensure the Save & Publish button is clicked to send the calendar to the sign.
- 4. Test the system to make sure it works as intended.

		Scenario Schedu	ing Holidays & Exceptions	Program Delay Rad
		Carmanah_SpeedC	heck_ ~	
		КРН		
		Sign Mode	On with Beacon V	
	Status	Speed Offset	00 🗸	
Beacon Control	O On	Speed Limit	30 🗸	
	O Off	Minimum		
	Schedule	Steady Speed	25 🗸	
		Flash Speed	31 🗸	
		Slow Down	35 🗸	
		Red and Blue	99 🗸	
		Max Speed	50 -	
		Brightness		
		O Auto AMan	ual [00]	



Configuration – display on and beacons off when not scheduled

1. See the chart below for typical settings. Click "Apply" when completed on each tab to save the settings.

SpeedCheck Manager Function	Tab	Mode	Setting	Description
Operating Mode Select Method	Device Setup		Select Via External Input	Enables remote triggering for beacon(s)
Output Function A & B	Device Setup		Flash	Enables the beacon(s)
Sync	Device Setup		Alt B with A	Alternates beacon 1 and 2 in a wig-wag flash. Choose Sync B to A for unison.
Display	Operating Modes	Mode 1	On	Display on when not scheduled
Speed Limit	Operating Modes	Mode 1	Normal Speed Limit value	
Violation Alert Speed	Operating Modes	Mode 1	Normal Violation Alert speed value	Typically Speed Limit + 1
Slow Down Speed	Operating Modes	Mode 1	Normal Slow Down speed value	Typically Speed Limit + 5
High Speed Cutoff	Operating Modes	Mode 1	Normal High Speed Cutoff value	Typically Speed Limit + 20
Minimum Speed	Operating Modes	Mode 1	Normal Minimum Speed value	Typically Speed Limit - 5
Output A	Operating Modes	Mode 1	99	Beacon(s) off when not scheduled
Output B	Operating Modes	Mode 1	99	Beacon(s) off when not scheduled
Display	Operating Modes	Mode 2	On	Display on when scheduled
Speed Limit	Operating Modes	Mode 2	Reduced Speed Limit value	
Violation Alert Speed	Operating Modes	Mode 2	Reduced Violation Alert speed value	Typically reduced Speed Limit + 1
Slow Down Speed	Operating Modes	Mode 2	Reduced Slow Down speed value	Typically reduced Speed Limit + 5
High Speed Cutoff	Operating Modes	Mode 2	Reduced High Speed cutoff value	Typically reduced Speed Limit + 20
Minimum Speed	Operating Modes	Mode 2	Reduced Minimum Speed value	Typically reduced Speed Limit - 5
Output A	Operating Modes	Mode 2	0	Beacon(s) on when scheduled
Output B	Operating Modes	Mode 2	0	Beacon(s) on when scheduled



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File View Tools Help onnected To: SPEEDCHECK-18 SpeedCheck Device Setup System Operating Mo	5-TS Close Conne Select Via External Input odes Data Collection	ction Establish Connection	File View Tools Help Connected To: SPEEDCHECK-15-TS SeeedCheck Select Via External Input Device Setup System Operating Modes Data Collection	nnection Establish Connect
Operating Mode Select Method: Continuous Select Va External Input Use Scheduler SLOW DOWN Message On Off Factory Settings	Output Function: A: Flash B: Flash B: Flash Sync O Sync Bto A Image: Sync Bto A	HS Cutoff Function: Blank Daplay Dupplay Speed Limit Diable Output Turn-off Delay A: 0 + B: 0 + Precular Data Celection Password Protection Test Sequence at Startup Apply	Mode Mode 2 Display: In In High Spin Data Collection: In In Minimum Disp Speed Limit: 30 20 Output Violation Alert Speed: 31 21 Output SLOW DOWN Speed: 35 25 Apply	Mode 1 Mode sed Cutoff: 50 40 lay Speed: 25 15 t A Speed: 99 0 t B Speed: 99 0

2. Log into Glance and set the following. Click Publish Radar when done.

Glance Function	Screen	Setting	Description	
Beacon Control	Main	Schedule		
Sign Mode	Radar	Always On	Display always on	
Speed Offset	Radar	00		
Speed Limit	Radar	Same as Mode 1 in SpeedCheck Manager		
Minimum Speed/Steady Speed	Radar	Same as Mode 1 in SpeedCheck Manager		
Flash Speed	Radar	Same as Mode 1 in SpeedCheck Manager	Flash Speed = Violation Alert speed	
Slow Down	Radar	Same as Mode 1 in SpeedCheck Manager		
Red and Blue	Radar	Same as Mode 1 in SpeedCheck Manager	Red and Blue = Output A/Output B	
Max Speed	Radar	Same as Mode 1 in SpeedCheck Manager		

- 3. Set your schedules, holidays, and exceptions. Ensure Save & Publish is clicked to send the calendar to the sign.
- 4. Test the system to make sure it works as intended.

		Scenario Sche	eduling Holidays & Exceptions	Program Delay	Radar
		Carmanah_Spee	edCheck_ 👻		
		КРН			
		Sign Mode	Always On 🗸		
	Status	Speed Offset	00 ~		
Beacon Control	O On	Speed Limit			
	O Off	Minimum			
	Schedule	Steady Speed	25 🗸		
		Flash Speed	31 👻		
		Slow Down	35 👻		
		Red and Blue	99 🗸		
		Max Speed	50 ~		
		Brightness			
		O Auto 💿 M	anual 08 🗸		



10. Appendix C – AI-500-030 Low Power Monitor (LPM)

For systems that will contain the AI-500-030 Low Power Monitor, Carmanah includes an adapter harness to go from the AI-500-070B harness to the AI-500-030 device.



The supplied AI-500-070B (16-pin) harness will connect to the adapter harness (16-pin to 18-pin). The 18-pin end of the adapter harness then connects to the AI-500-030.



The following monitoring parameters will be available with this harness and adapter configuration in a SPEEDCHECK-15/18:

- Solar panel voltage monitoring (solar systems only)
- System voltage monitoring (AC systems only)
- Battery voltage monitoring (solar systems only)
- Cabinet door monitoring (if door switch installed)
- Knockdown monitoring



Follow the instructions provided by Applied Information for installing the AI-500-030 or contact their email support at support@appinfoinc.com.



- 1. Not supported by AI-500-030 (leave disconnected)
- 2. To adapter harness; #5
- 3. Not supported by AI-500-030 (leave disconnected)
- 4. To SPEEDCHECK-15/18 terminal block (see <u>Section 4.4</u> or <u>Section 4.5</u>)
- 5. To AI-500-070B harness; #2
- 6. To AI-500-030 device

Door switch:

• See <u>Section 4.2</u>

Solar systems:

• See <u>Section 4.4</u>

AC systems:

See <u>Section 4.5</u>



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