

CURT 51110

CURT Venturer Electric Trailer Brake Controller User Manual

Model: 51110

1. INTRODUCTION

The CURT Venturer Electric Trailer Brake Controller (Model 51110) is a time-based system designed to provide reliable and smooth braking for your trailer. This compact unit is engineered for ease of setup and operation, featuring an automatic power level adjustment and compatibility with various trailer configurations.

It is suitable for trailers with one to three axles (two to six brakes) and is compatible with anti-lock braking systems (ABS), cruise control, low-voltage systems, and PWM systems. The Venturer controller utilizes quick-plug technology for straightforward integration with your vehicle's existing wiring, and its versatile design allows for mounting at any angle within the vehicle's cabin.

2. KEY FEATURES AND BENEFITS

- **Reliable Safety:** Offers safe, dependable operation by increasing trailer brake pressure proportionally as the vehicle's brake pedal is depressed, ensuring a smooth stop for both vehicle and trailer.
- **Easy to Use:** Features an easy-to-read, ramp-up LED display for monitoring brake operation. Its design is simple and reliable, with no internal moving parts and no leveling required for installation.
- **Powerful Control:** Provides powerful brake operation through simple controls, including a manual brake slider button, an adjustable power toggle, and adjustable ramp time.
- **Versatile Compatibility:** Can be used with virtually any trailer equipped with 1 to 3 axles (2 to 6 brakes). It maintains full compatibility with cruise control, anti-lock brakes, low-voltage systems, and PWM systems.
- **Simple Setup:** Designed for quick plug-in installation using a CURT vehicle-specific quick plug harness (sold separately). Includes an adjustable mounting bracket for flexible installation at any angle.

FEATURES & BENEFITS

No internal moving parts and no leveling required

Increases brake power based on gain setting and sensitivity adjustment



LED indicator lengthens as power is applied

Quick-plug equipped

 **CURT**

Image: Overview of the CURT Venturer Brake Controller highlighting its key features and benefits, including the LED indicator, quick-plug capability, and absence of internal moving parts.

3. WHAT'S IN THE BOX

Upon opening the package, you should find the following components:

- CURT Venturer Electric Trailer Brake Controller (Model 51110)
- Adjustable Mounting Bracket
- Mounting Hardware (screws, nuts, etc.)

Note: A vehicle-specific quick plug harness is sold separately and is required for plug-and-play installation.

FEATURES & BENEFITS

LED indicator lengthens
as power is applied



Image: The CURT Venturer Brake Controller shown in its retail packaging, indicating the product as it appears when purchased.

4. SPECIFICATIONS

Attribute	Value
Brand	CURT
Model	Venturer (51110)
Item Dimensions (L x W x H)	8 x 2 x 5 inches
Material	Plastic
Item Weight	7.4 ounces
Maximum Supply Voltage	12 Volts (DC)

Attribute	Value
Measuring Range (Axles/Brakes)	1 to 3 axles (2 to 6 brakes)
Mounting Type	Any angle mount
Output Type	Electrical Signal
Specific Uses	Towing trailers

APPROXIMATE DIMENSIONS

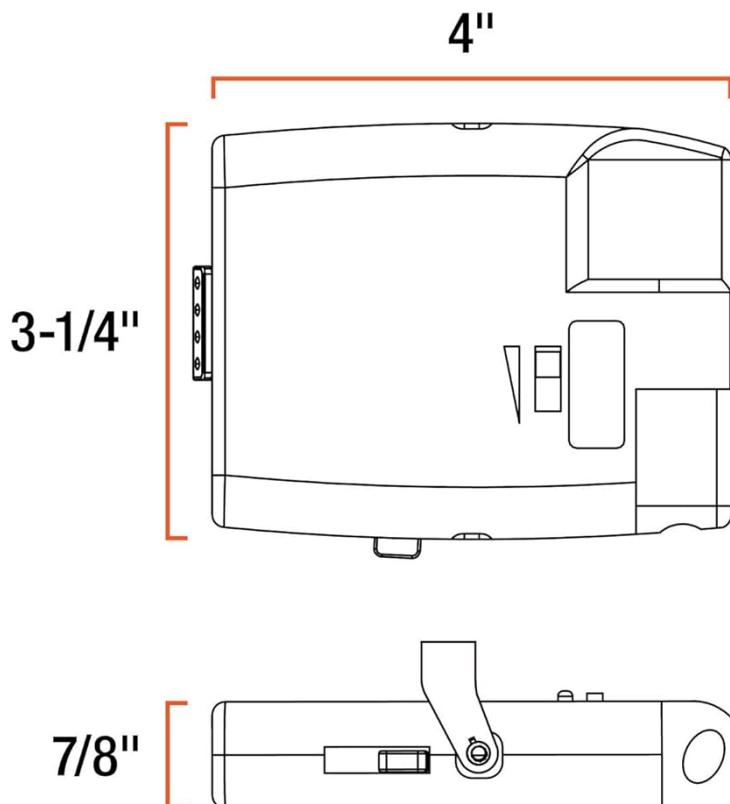


Image: Diagram illustrating the approximate dimensions of the CURT Venturer Brake Controller, including length, width, and height measurements.

5. SETUP AND INSTALLATION

5.1. Mounting Location

The Venturer brake controller can be mounted at any angle. For optimal accessibility and visibility, it is

recommended to mount the unit on the dash of your vehicle, preferably below the steering wheel on either the right or left side of the steering column. This placement ensures the control does not obstruct your view while driving but remains within easy reach for adjustments.

FEATURES & BENEFITS

Mounts anywhere in the vehicle, at any angle



Image: The CURT Venturer Brake Controller mounted under a vehicle dashboard, demonstrating its flexible mounting capabilities at various angles.

5.2. Wiring Connection

The Venturer controller is designed to work with quick plugs for easy connection to your vehicle's original equipment socket. A CURT vehicle-specific quick plug harness (sold separately) is recommended for a seamless plug-and-play installation. Refer to the harness instructions for specific wiring details for your vehicle model.

FEATURES & BENEFITS

Quick plug equipped



Image: A close-up view of the quick-plug connector on the CURT Venturer Brake Controller, illustrating its design for easy and secure electrical connection.

5.3. Initial Power-Up

Once mounted and connected, the unit will power on when the vehicle's ignition is active. The LED display will indicate its status.

6. OPERATING INSTRUCTIONS

6.1. LED Display

The Venturer features an LED display that provides visual feedback on brake pressure. As brake power is applied, the LED indicator will lengthen, showing the increasing intensity of the trailer braking.

FEATURES & BENEFITS

**LED indicator lengthens
as power is applied**



 **CURT**

Image: A detailed view of the LED indicator on the CURT Venturer Brake Controller, showing how the illuminated bars extend to indicate increasing brake power.

6.2. Adjusting Brake Power (Gain)

The controller includes an adjustable power toggle (often referred to as 'gain' control) to set the maximum braking force applied to the trailer. This adjustment allows you to fine-tune the braking intensity to match your trailer's weight and load conditions. Adjust the toggle to achieve smooth, firm braking without locking up the trailer wheels.

6.3. Adjusting Ramp Time (Aggressiveness)

An adjustable ramp time feature allows you to control how quickly the brake power reaches its maximum set level. A shorter ramp time results in more aggressive braking, while a longer ramp time provides a smoother, more gradual application of trailer brakes. Experiment with this setting to find the optimal feel for your towing setup.

6.4. Manual Brake Slider

The manual brake slider button provides immediate, full braking power to the trailer independently of the vehicle's brakes. This feature is useful for testing the trailer brakes, or for situations where additional trailer braking is needed, such as controlling sway or slowing down on a downgrade.

7. MAINTENANCE

- Cleaning:** Keep the unit clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- Wiring Inspection:** Periodically inspect all wiring connections for signs of wear, corrosion, or loose connections. Ensure the quick plug harness is securely seated.
- Functionality Check:** Before each towing trip, perform a quick check of the brake controller's functionality. Ensure the LED display responds correctly to brake pedal input and that the manual override functions as expected.
- Storage:** If the controller is removed from the vehicle for extended periods, store it in a dry, cool place away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Controller not powering on.	No power from vehicle; loose connection; blown fuse.	Check vehicle's fuse box for trailer brake circuit fuse. Ensure all connections are secure. Verify vehicle's trailer wiring is active.
No trailer brakes when vehicle brakes are applied.	Trailer not connected; incorrect gain setting; wiring issue on trailer or vehicle.	Ensure trailer is properly connected. Increase gain setting. Inspect trailer and vehicle wiring for damage or corrosion.
Trailer brakes lock up or are too aggressive.	Gain setting too high; ramp time too short.	Decrease the gain setting. Increase the ramp time for smoother braking.
Inconsistent braking.	Loose wiring connections; faulty trailer brake components.	Check all electrical connections. Inspect trailer brake assemblies for proper function.
Manual override not working.	Wiring issue; internal controller fault.	Verify wiring to the controller. If problem persists, contact customer support.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact CURT customer support.

9. WARRANTY INFORMATION

CURT Manufacturing, LLC warrants this product to be free of defects in material and/or workmanship for a limited period from the date of original purchase. Specific warranty terms and conditions may vary. Please refer to the official CURT website or the warranty card included with your product for complete details regarding warranty coverage, limitations, and claims procedures.

10. CUSTOMER SUPPORT

For technical assistance, troubleshooting, or to inquire about replacement parts, please contact CURT customer support:

Website: www.curtmfg.com

Phone: Refer to the CURT website for current contact numbers.

Online Resources: Additional installation guides, FAQs, and product information may be available on the CURT website.

© 2024 CURT Manufacturing, LLC. All rights reserved.

Related Documents

	<p>CURT Venturer™ NEXT Trailer Brake Controller Installation Manual (Model 51116)</p> <p>This manual provides detailed instructions for installing and operating the CURT Venturer™ NEXT Trailer Brake Controller (Model 51116). It covers component identification, wiring, mounting procedures, operational modes, initial setup, testing, and troubleshooting.</p>
	<p>CURT Spectrum Brake Control Installation Manual</p> <p>This manual provides detailed instructions for installing the CURT Spectrum Brake Control (Model 51170). It covers component identification, wiring, mounting options, setup procedures, testing, and troubleshooting for safe and effective trailer braking.</p>
	<p>CURT Brake Control Tester Operating Instructions</p> <p>Step-by-step guide for operating and testing the CURT Brake Control Tester, including instructions for manual activation, brake pedal activation, and short circuit protection.</p>
	<p>CURT TRIFLEX Brake Control: Installation and User Guide</p> <p>Discover how to install, set up, and operate your CURT TRIFLEX™ trailer brake controller with this comprehensive user guide. Learn about its features, wiring, troubleshooting, and ensure safe towing for your vehicle and trailer.</p>

Documents - CURT – 51110

[\[pdf\] User Manual Owner's Manual Instructions Guide Warranty Catalog](#)



VENTURER BRAKE CONTROL INSTALLATION AND USER GUIDE For use Venturer brake control CatalogRack NOTE Removal of factory supplied quick plug may void warranty Most pick ups and utility vehicles are equipped with a from the that allows installation Check owner 39 s manual for availability location If mating vehicle is no longer available CURT Manual Control The lever located on front left unit It only applies to trailer brakes used during initial setup in situations where slow reduction speed desirable When pushed right begins apply 12 volt negative ground systems trailers two six Read follow save this guide future reference 1 Brake module custom connector specific 96338 Curt 51110 Instructions INS CME northerntool images manuals rvupgradestore v vsfiles assets curtmfg masterlibrary installsheets VENTURER BRAKE CONTROL INSTALLATION AND USER GUIDE For use with 12 volt negative ground systems only For trailers with two to six brakes Read, follow and save this guide for future reference VENTURER **51110-INS-R1** PAGE 1 This package includes: 1 Brake control module with quick plug 1 Mount...

lang:en **score:39** filesize: 939.52 K page_count: 16 document date: 2013-08-12

[\[pdf\] User Manual Owner's Manual Guide Warranty Catalog](#)



VENTURER BRAKE CONTROL INSTALLATION AND USER GUIDE For use NOTE Removal of factory supplied quick plug may void warranty Most pick ups and utility vehicles are equipped with a from the that allows brake control installation Check owner 39 s manual for availability location If mating vehicle is no longer available CURT CME 51110 INS storage googleapis aam files 2 curt VENTURER BRAKE CONTROL INSTALLATION AND USER GUIDE For use with 12 volt negative ground systems only For trailers with two to six brakes Read, follow and save this guide for future reference VENTURER **51110-INS-R1** PAGE 1 This package includes: 1 Brake control module with quick plug 1 Mount...

lang:en **score:34** filesize: 254.73 K page_count: 16 document date: 2018-10-15

[\[pdf\] User Manual Guide Catalog](#)



User Manual Curt Manufacturing 51110 Venturer Brake Control Controls 91NdX0nK0VL m media amazon images I ||| VENTURER BRAKE CONTROL INSTALLATION AND USER GUIDE For use with 12 volt negative ground systems only For trailers with two to six brakes Read, follow and save this guide for future reference VENTURER **51110-INS-R1** PAGE 1 This package includes: 1 Brake control module with quick plug 1 Mount...

lang:en **score:33** filesize: 941.28 K page_count: 16 document date: 2022-06-09

[\[pdf\] User Manual Accessories](#)



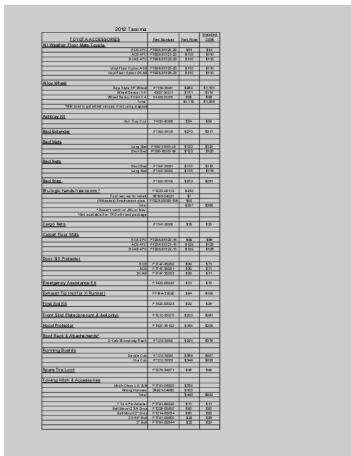
PowerPoint Presentation Joseph Ripienski Brake Controllers BRAKE CONTROLLERS Echo® Manual Override Button 51189 Enables manual activation of trailer brakes using and phone app App must be running for button to operate Wireless accessory supports hands free driving Compatible with programmable other Flic applications Long range Bluetooth maintains a strong connection Includes double sided adhesive CURT Controls storage googleapis curt university training presentations Brake Controllers BRAKE CONTROLLERS Two Types of Brake Controllers Proportional activation Time ... ity adjustment Digital display Mounts anywhere in the vehicle Operates 2 - 8 brakes VenturerTM #**51110** Increases brake power based on gain setting and sensitivity adjustment LED display Mounts a...

lang:en **score:26** filesize: 1.44 M page_count: 18 document date: 2021-02-26

[\[pdf\] User Manual Accessories](#)



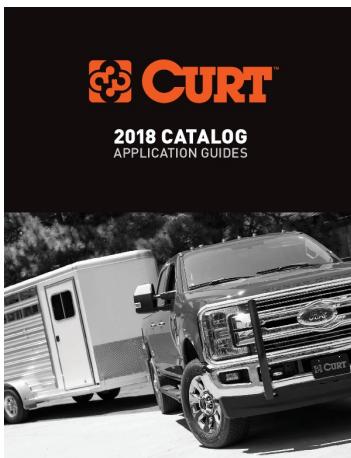
BRAKE CONTROLLER WIRING ACCESSORIES manual override with the press of a button Controls all brake settings simple push rotary knob Clean dash mounted OEM style user interface 10 tri color LEDs Echo® brings towing into modern age Powered Bluetooth technology it wirelessly connects to driver 39 s smartphone control and monitor trailer 99260 Literature storage googleapis curt university CURT Tested. Proven. Safe. CURT products are thoroughly tested and proven safe to give you confidence for ... quired Digital display with 0.1 increments #51120 LED indicator lengthens as power is applied **#51110 BRAKE CONTROLLER WIRING ACCESSORIES** Brake controller harnesses Quick plug harness install... lang:en score:23 filesize: 1.5 M page_count: 2 document date: 2019-12-13



[\[pdf\] Installation Guide Guide Accessories](#)

Accessory List Guide xls Igaldi toyota accessories Dealer PT580 35050 LB \$120 Short Bed SB Nets PT347 35051 \$115 Long 35052 Step be66e6130a0d02b7000b049a86e45459 pictures dealer parkertoyota |||

2012 Tacoma TOYOTA ACCESSORIES All Weather Floor Mats-Toyota Part Number RCB 2PC PT908-35120-20 AC ... 23 55513 45036 232 60 30 322 484 Brake Controllers CURT BRAKE CONTROLER Wire Harness Total **51110** 51363 Tekonsha Prodigy 83192-02344 22285 60 16 76 135 25 160 101 117 201 2pc std ... lang:en score:23 filesize: 102.14 K page_count: 5 document date: 2012-06-05



[CURT 2018 Catalog: Trailer Hitches, Towing Accessories & Electrical Guides](#)

Explore the comprehensive CURT 2018 Catalog featuring trailer hitches, towing accessories, brake controls, custom wiring, and essential application guides for safe and reliable towing.

lang:en score:19 filesize: 34.69 M page_count: 241 document date: 2018-02-05

HYDRASTAR® Tow Vehicle and Aftermarket Brake Controller Compatibility			
Hydraulic Trailer Braking System			
This reference is for use only with the FBA/FBSA with the following serial numbers and higher: FBA-10: 31800+; FBA-12: 78760+; FBA-16: 58610+; MBFA-10/12/16: AB-10/12/16 The A-10 is only applicable for FBA-10/12/16.			
Tow Vehicle Manufacturer	Year	Compatible	CAM Needed
Ford	2008-2009	YES	NO
	2010-2010	NO	YES
	2009-2010	YES	NO
Dodge/RAM	2010-Current	YES	NO
GM/Chevy	2007-2016	NO	YES
	2017-Current	YES	NO
Toyota	2016-Current	YES	NO
Aftermarket Brake Controller	Model		
Drawtite	Arboreto II 5500 Arboreto III 5510 Arboreto IV 5504		
Curt	Valutek 51110 Discovery 51110 Discovery 51122 Inova 51138 Inova 51133 Triton 51148 Triton 51142		
Hopps	Endurance 51170B Endurance 51170 C-Brake 51170K Synchrostar 51173 Endurance 51170 Gentech 51190		

[Hydrastar Hydraulic Trailer Braking System: Tow Vehicle and Aftermarket Brake Controller Compatibility](#)

A compatibility guide from Hydrastar detailing which tow vehicles and aftermarket brake controllers work with their hydraulic trailer braking systems. Includes compatibility information for Ford, Dodge/RAM, GM/Chevy, and Toyota tow vehicles, as well as various aftermarket controllers from brands like Drawtite, Curt, Hayes, Hopkins, Tekonsha, and Tuson.

lang:en score:19 filesize: 171.92 K page_count: 2 document date: 2020-12-07

[\[pdf\]](#) Guide Accessories

Accessory List Guide xls Igaldi Dealer US TRD Air Filter 17801 0S010 PTR43 00090 \$75 Cleaning Kit
00088 \$25 5VZFE 2UZFE Oil 00080 \$14 \$13 3URFE 00081 Filler Cap PTR04 12108 02 \$65 PTR35
00070 \$50 00110 Cold Intake PTR03 34100 \$500 \$622 Fit 4 6L only 34102 \$39 Total \$539 \$661
be679f1c0a0d02b7000b049a6e64f3d8 pictures dealer parkertoyota

2012 Tundra TOYOTA ACCESSORIES All Weather Floor Mats Toyota Part Number
Installed Parts Price ... a Primus TOYOTA BRAKE CONTROL WIRE ADAPTER
83192-02344 22285 135 25 160 CURT BRAKE CONTROLER **51110** 60 Wire
Harness 51363 16 76 Reference only- Check MFG s for 2012 specific info 122 ...
lang:en **score:18** filesize: 113.11 K page_count: 11 document date: 2012-06-05



[\[pdf\]](#) Catalog

5TH WHEEL HITCHES CURT offers a full line of 5th wheel products including rollers and hitches in 16K 20K 24K capacities s flagship 2013 Catalog Wheel Hitches assets curtmfg webfiles

5th Wheel Hitches CURT offers a full line of 5th wheel products, including rollers and hitches in 16 ... Brake controls See page 138 for our full listing MADE IN USA 16901 16900 51140 51130 51120 **51110** CURT Brake Controls Quick Reference Pkg# Model Name 6-pack Bulk# Axles Activation 1234 51...

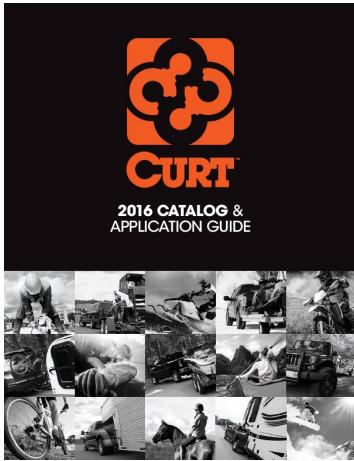
lang:en score:17 filesize: 7.3 M page_count: 8 document date: 2012-10-25



[\[pdf\]](#) Application Guide Catalog

Curt CURT 2023 Catalog frameco ca media wysiwyg catalogues |||

2023 CATALOG APPLICATION GUIDES INTENTIONALLY LEFT BLANK FOR TWO-PAGE VIEWING EVERYTHING YOU NEED TO KNOW About Auto adjustment Digital display 51120 DiscoveryTM Time-based Adjustable output Digital display **51110** VenturerTM Time-based Adjustable output Ramp-up LED display Dynamic power adjustment Applies ... lang:en **score:15** filesize: 66.35 M page_count: 285 document date: 2022-11-11

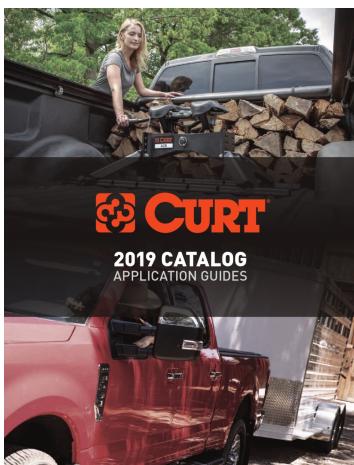


[\[pdf\]](#) Guide Application Guide Catalog

CURT Trailer Hitches Towing Catalog trailer hitches towing ball mounts 5th wheel gooseneck weight distribution sway control breakaway kits hitch mount carriers bike racks steps tow lights brakes brake controllers connectors bars couplers jacks winches tool boxes mirrors transmission coolers straps tie downs covers CARiD catalog 2016 images card curt page |||

2016 CATALOG APPLICATION GUIDE NEW PRODUCTS DESIGNED TO HELP YOU BRING IT CURT Manufacturing s ... BRAKE HOW TO SELECT CONTROLS A BRAKE CONTROL 51140 - TriFlex 51130 - Reflex 51120 - Discovery **51110** - Venturer A brake control is a small electronic device that regulates the electric brakes of...

lang:en **score:13** filesize: 17.17 M page_count: 258 document date: 2016-10-05



[\[pdf\]](#) Application Guide Accessories Catalog

CURT Trailer Hitches Towing Catalog trailer hitches towing ball mounts 5th wheel gooseneck front pintle hooks tow lunette rings weight distribution hitch covers steps mount bike carriers pins locks accessories cargo wiring harness electrical connectors brake controllers sway control parts couplers jacks breakaway kits tool boxes winches brakes CARiD 2019 catalog images card curt info |||

2019 CATALOG APPLICATION GUIDES CURT is the leading manufacturer of USA-made trailer hitches and a ... trumTM AssureTM TriFlexTM ReflexTM DiscoveryTM VenturerTM Pkg# 51180 51170 51160 51140 51130 51120 **51110** SixPack# ---51142 51132 51122 -- Repl. Bracket# ---51144 -51124 51114 Axles 1 - 2 1 - 4 1

lang:en **score:13** filesize: 13.69 M page_count: 230 document date: 2018-11-22



[\[pdf\]](#)

GOOSENECK HITCHES CURTDrop ball storage helps avoid trailer loss and keeps truck bed free of obstruction Chrome 2 5 16 Heavy duty handles trim Gooseneck Hitches 14assets curtmfg webfiles Gooseneck 14 |||

Gooseneck Scan for live digital version hitches GOOSENECK HITCHES Quality craftsmanship and intel ... page 176 for our complete brake control line 51130 Reflex is made in the USA 51140 51130 51120 **51110** CURT Brake Controls Quick Reference Model Name Pkg# 6-pack Spare Axles Activation Bulk# B...

lang:en **score:13** filesize: 8.42 M page_count: 10 document date: 2013-12-03



[\[pdf\]](#)

TOWING ELECTRICAL AIH 2020 11 23 — Triple axis motion sensing accelerometer for highly responsive smooth stops Third provides precise dynamic brake power 99111 Electrical curtmfg masterlibrary 01resources Sell Sheets |||

Towing electrical CURT electrical products are designed to deliver unsurpassed levels of performance ... time Discovery 51120 51122 51124 X X X X Time-based Digital Any Auto Limited lifetime Venturer **51110** -- 51114 X X X - Time-based LED Any Auto Limited lifetime * TriFlex and Reflex can be mo...

lang:en **score:12** filesize: 12.24 M page_count: 12 document date: 2014-01-08



[\[pdf\]](#) Application Guide Catalog

CURT Catalog Trailer Hitches Wiring 5th Wheel Gooseneck AM media lippert Design Team Catalogs |||

CATALOG APPLICATION GUIDES INTENTIONALLY LEFT BLANK FOR TWO-

PAGE VIEWING EVERYTHING YOU NEED T ... # 51124 51114 Description

Mounting bracket and hardware Mounting bracket and hardware Fits 51120 **51110**

877.287.8634 CURTMFG.COM TOWING ELECTRICAL 151 BRAKE BREAKAWAY

KITS CONTROLLERS Activat...

lang:en **score:11** filesize: 52.19 M page_count: 315 document date: 2024-12-19