Complete Limo Control System

Utilize Vegatouch to interact seamlessly with RGB, Laser, Fiber Optics, and Mood Lighting
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It’s Here!

A powerful and reliable coach control system packed into a clean, simple interface.
Introduction
Firefly Integrations/Spyder Controls Corporation specializes in the design and manufacture of DC and AC electrical control systems for RV and marine applications. Our broad line of switch panel and control panel products seamlessly integrate the control and operation of systems such as lighting, motorized window covers, valves, solenoids, actuators, climate control and much more. Firefly Integrations/Spyder Control Corporation is dedicated to providing manufactures with products that are cost-effective, ultra-reliable and easy to install. Our products also offer the highest level of convenience, simplicity and appeal for the end user.

The broad range of applications for our systems can range from a few switch panels for dimming lights to mega-systems that integrate all aspects of the RV or yacht.

When compared with a ‘conventionally’ wired system, the Firefly Integrations/Spyder Controls Corporation network and products offer a number of benefits for the builder/manufacturer and also the end user.

Benefits for the Manufacturer
Reduced Complexity: All of the switch panels and control modules/panel(s) are connected together by a single CAN network cable. Furthermore, each load (light circuit, pump, valve or motor) connects directly to its assigned control module or panel, without the need for additional breaker/fuse panels, switches or power distribution terminals within the circuit.

Significant Wire and Component Reduction: The Spyder Network can offer a 40-75% reduction in the wiring and harnesses required by a ‘conventionally’ wired electrical system, saving space, reducing weight and associated effort. Additional savings are achieved by eliminating the need for any external dimmers, transformers, breaker/fuse panels or ‘Master Controllers’.

Greater Production Efficiency: Fewer components, reduced connections and simplified installations work together to increase overall efficiency through the various stages of the manufacturing process.

Unparalleled Flexibility: The modular design of the components in the Spyder Network allow the system to be scaled to size for any project—large or small. It also offers the flexibility to add, remove or revise any part of the system during production or post-production.

Benefits for the End-User
Ease of Operation: Careful attention has been put into the details that made operation extremely simple and intuitive. The function of each button is clearly displayed on appropriately sized buttons that are logically placed and easy to read. Each button is evenly backlit by multi-color LED illumination to provide feedback to the operator of the status of each function.

Added Convenience: Operate the lighting, window coverings and mechanical systems from multiple convenient locations with the simple touch of a button. Control of all of the various systems are seamlessly brought together into attractive and uniform user interfaces, eliminating the need for many different types of unsightly displays and operator panels.

Added Features: A few of the many features include lighting that can be infinitely dimmed to any level or the ability to leave a room and turn all lights off with a single button press. Then the same lights—or if desired, all lights—can be turned back on again with another simple button press. Or touching a button labeled ‘MOVIE SCENE’ can simultaneously dim the appropriate lights and lower the shades for an enhanced atmosphere. The possibilities are virtually limitless.
What Sets Us Apart
When compared with other ‘networked’ control systems on the market, the Spyder Control system and products stand out in a number of ways.

Proven, Open-Design Network
All components within a Spyder Control system utilize the CAN (Controller Area Network) protocol, which has become the proven standard for automotive, marine and many industrial applications due to its sound, dependable performance in very rugged and ‘noisy’ environments. The Spyder Control network also employs a peer-to-peer relationship between all components, where every single device functions, without the need for any type of ‘Master Controller’.

We have employed this widely used ‘open’ architecture protocol in a way that permits flawless integration with other systems such as touch screen displays and data acquisition and monitoring systems.

Reliable Performance
All components in the Firefly Integrations/Spyder Controls Corporation product line utilize mature, time-tested designs and have been field proven in numerous applications in different industries.

All controls that are dedicated to critical applications incorporate backup features for failsafe operation.

Aesthetically Pleasing Designs
Firefly Integrations/Spyder Control Corporation has paid special attention to the finer details to create products which enhance and compliment the appearance of any application. A significant effort has been invested in creating products with a refined, quality look and feel in place of the often ‘cheap’, bulky or commercial/industrial-looking components.

We respect the individuality of each client. We commonly work one-on-one with each manufacturer to create a custom look which enables their end product to stand out in the marketplace.

All-Inclusive Architecture
Our multi-channel control modules and panels incorporate all of the necessary components for controlling each load (circuit protection, switching and distribution), significantly minimizing voltage loss and points of failure through reduced connections.

Our modular control panel design goes the next step by allowing multiple standalone control modules to be housed within compact enclosure systems. This offers even greater ease of installation and efficient power distribution, while providing a very attractive and informative display for the end user.

Customer-Focused Vision
Our unmatched level of customer service goes far beyond the sale of a great product and our list of satisfied customers proves it.

We strive to prove ourselves as a valuable partner to each client. We establish and strengthen our client partnerships by offering advanced engineering support though every detail of a new project, through our ability to deliver completely ready-to-install products and our in-field training and aftermarket support.

Sample Network Diagram (size of network and type of products will vary)
**Product Overview**

**Switch Panels**
Our simple, yet elegant switch panel designs enhance and compliment the appearance of any application, while providing a convenient and user friendly interface.

**Switch Panel Features:**
- **Quality Look & Feel:** Multiple styles and finishes paired with a feeling of elegance each time a button is pressed delights end-users.
- **Multi-Color Backlighting:** Serves to uniformly illuminate each button individually and provide a simple form of status feedback for the operator.
- **Attractive, Easy to Read Labels:** Clearly display the function for each button. Customization possibilities are endless.
- **Wide Range of Sizes:** 4 to 16 button groupings ensure every application is covered.
- **Low Profile Design:** Less than ¾” mounting depth from the mounting surface makes placement and installation a breeze.

**Control Products**
Our control modules and panels are specifically designed to handle virtually any electrical load from basic over-current protection and switching to dimming, and motor control. Each rugged and industry proven product offers numerous features and is designed to provide a lifetime of maintenance free service, even in mobile and marine applications.

**Control Module & Panel Features:**
- **All-In-One Design:** Incorporates the over-current protection, switching and distribution components. This greatly reduces the complexity and number of connections for each circuit, as well as overall installation time and space required during installation.
- **Compact & Flexible Module Architecture:** Permits each circuit to be controlled locally—with the control modules located near their respective loads or in a centralized distribution panel which accommodates multiple standalone modules in one convenient location.
- **Broad Product Offering:** Facilitates the control of a wide range of loads from DC to AC and LED lighting, to most resistive and inductive loads as valves, solenoids, and single and bi-directional electric motors, all within a seamlessly networked system.

**Interconnect Solutions**
We have carefully engineered a suite of innovative and dependable connector and cable solutions for the interconnection of the various components in the CAN network, as well as the power connections to and from the various control modules.

**Proven, Open-Design Network**
- **Little or No Tooling Required for Terminations:** Huge savings in installation time and reduced connection failure issues caused by improper ‘crimping’.
- **Performance Connections:** Are provided by positive locking mechanisms on each connection and reliable ‘spring cage clamps’ technology, which provides a gas-tight connection and significantly reduces in-field connection failures caused by vibration and corrosion.
- **All-In-One Network Cabling:** Simplifies both the harness size and complexity. The CAN communication wires, as well as the operational power and ground are conveniently packaged within one cable. The cables have been carefully engineered to meet the CAN specifications and are constructed of ultra-flexible materials for reliable performance in applications such as slide-out and hinged panels.

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**Firefly System**
5" Color Touchscreen

Features:
- 5" Color screen with capacitive interface
- Operates directly from network power and CAN connection
- Low-profile surface-mount design
- Support for a network of wireless keypads

Description:
The Vegatouch Lynx 5" Color touchscreen is the perfect fit in areas that need more control but are limited by space. Available in a RF version (70202) for switch pairing or non-switch pairing (70201) for screens that don’t need to pair with wireless switches.

Part #: 70201
Part #: 70202 (RF)

7" and 10" Color Touchscreens

Lyra and Polaris Features:
- Glass Capacitive interface
- Low-profile, flush-mount installation
- Operates directly from network power and CAN connection
- Digital navigation buttons inside the touchscreen area
- Support for a network Wireless keypads

Description:
Vegatouch 7" Lyra and 10" Polaris color touchscreens are loaded with features such as a sleek, flush-mount design, solid glass capacitive touch interface, and support for our range of wireless switch panel products. An innovative installation and mounting system provides a very low-profile appearance.
Features:
- **Surface mount:** At 3/8” in thickness, they can be installed anywhere in the coach
- Cuts installation and maintenance costs by eliminating cable runs and cut-outs
- Wireless, wireless with backlighting, and wired options
- Reduced complexity

Description:
The SSP17 Series of switch panels features a simple, modern layout with four or eight positions and several options to choose from including wireless (70345), wireless with backlighting (70344), and wired (70343). Each wireless switch operates on a coin-cell battery and utilizes a wired touchscreen that controls the logic of each paired wireless switch in the system. Wireless switches with backlighting function the same way as standard wireless switches but have the additional function of backlighting. Wired switches allow the added features of backlighting and status indicators.

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**Features:**
- **Surface mount:** Place the switch where it's needed, pocket door walls, etc.
- Offered in 6 and 10 switch groupings, easily blanked out for any needs from a single switch up to 6 or 10
- Polished Black finished covers with many other options
- Cover Plates conceal all fasteners for ultra-clean installations
- Large font and symbols with blue/white back lighting!
- RGB backlighting
- Proximity Lit backlighting options

**Description:**
The SSP18 Series of switch panel brings you the same modern and familiar styling as the SSP14. The clear brightly backlit labels with symbols make this a very operator friendly switch! Built-in status backlighting for each switch provide real time status feedback for each switch group. The SSP18 series comes in a traditional polished black finish. The SSP18 Series is the choice for the budget conscious application and the need for button size along with a large more readable font!
SSP06 Switch Panels

Features:
- Horizontal and vertical orientations
- Button groupings of 5, 6, 8, 10, 12 & 16
- Low profile mounting depth—less than .625” from surface
- Blue and red discrete LED illumination
- Single-Throw and Double-Throw functions for each button

Description:
The SSP06 series of switch panels from Firefly Integrations/Spyder Controls Corporation is our flagship offering for simple, reliable and attractive user interface. From the solid, tactile feel of each button to the crisp, bright, tri-color LED backlighting, each detail of these unique switch panels attests to the solid design of the highly customizable product. The decorative cover plate employs a unique mounting system that conceals the mounting screws and can be provided in a wide variety of materials and finishes to complement any application.

SSP06 Groupings

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>70296</td>
</tr>
<tr>
<td>6</td>
<td>70294</td>
</tr>
<tr>
<td>8</td>
<td>70293</td>
</tr>
<tr>
<td>10</td>
<td>70291</td>
</tr>
<tr>
<td>12</td>
<td>70290</td>
</tr>
<tr>
<td>16</td>
<td>70289</td>
</tr>
</tbody>
</table>
G6 Control Panel

Features:
- **Large Capacity**: Up to 72 output channels within one compact panel
- **No Fuses**: Achieved by a combination of breaker and PTC overcurrent protection
- **Flexibility**: Modular design supported by 12-channel plug-in cards for maximum flexibility
- **Easy Installation**: Internal buss bar easy to access output connectors provide a very simple, clean installation

Description:
The G6 panel offers the benefits and convenience of breaker-style manual and auto-reset circuit protection that replaces blade type fuses. The unique design of the G6 panel also offers unparalleled flexibility and selection in the type of dimming, relay and breaker outputs to support virtually any application including lighting, pumps and motors, as well as auxiliary outputs to control items such as leveling jacks, slide-outs, awnings, generators much more. The G6 panel also offers support for tank level, voltage / current and temperature monitoring. The G6 panel consists of a compact and clean-looking enclosure that houses easy-to-plug-in modules that can be configured according to the needs of each application.

G6 Card Types

<table>
<thead>
<tr>
<th>Card Type</th>
<th>Part #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimmer (5A) - 70540</td>
<td></td>
</tr>
<tr>
<td>5A Relay - 70543</td>
<td></td>
</tr>
<tr>
<td>5A Relay w/Overrides - 70543OR</td>
<td></td>
</tr>
<tr>
<td>10A Relay - 70545</td>
<td></td>
</tr>
<tr>
<td>10A Relay w/Overrides - 70545OR</td>
<td></td>
</tr>
<tr>
<td>Breaker Relay - 70546</td>
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<tr>
<td>RGB - 70539</td>
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<tr>
<td>Breaker - 70542</td>
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<tr>
<td>Ignition - 70542C</td>
<td></td>
</tr>
<tr>
<td>Slide - 70538</td>
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</tr>
<tr>
<td>RSI-8 w/10 Inputs - 70525</td>
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<tr>
<td>RSI-8 w/15 Inputs - 70527</td>
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<tr>
<td>RSI-9 w/10 Inputs - 70529</td>
<td></td>
</tr>
<tr>
<td>RSI-9 w/15 Inputs - 70529C</td>
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<tr>
<td>CAN Router - 7000100</td>
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<tr>
<td>Filler - 70547</td>
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</tr>
</tbody>
</table>

Part #: 70520
G12 Control Panel

Features:
- (6) Dimming channels at 6A Max
- (6) Dimming channels at 12A Max
- (12) High-current outputs at 12A Max
- (12) Low-current outputs at 6A Max
- (2-8) High-current relays (CC/RP)
- (12) Half bridges with programmable polarity
- (6) Temperature sensor inputs
- (5) Touch/Probe tank inputs or (8) TruTank inputs
- (5) 12V inputs
- (5) Ground Inputs
- (2) LPG inputs
- (1) Generator running / hour input
- (1) Chassis voltage input
- (1) House voltage
- (1) 12V constant battery input (for time clock feature)
- Unique connectors to prevent mis-plugging

Description:
The G12 panel from Spyder Controls/Firefly Integrations provides plenty of flexibility with optional connectors such as an additional CAN network connection, additional NET ports, Real Time Clock, and a connector specifically for up to 8 contact closure pins. The G12 offers several options for tank monitoring such as Touch, Probe, and TruTank. This maintenance-free design controls all types of lighting, awning, water pump, vent fans, HVAC, tank levels and rocker switch inputs all within a single, enclosure.

Part #: 7000700 - G12 w/Probe Tanks
Part #: 7000701 - G12 w/TruTank
Part #: 7000702 - G12 #2 w/8 HC Relays and 15 HC Outputs
Part #: 7000703 - G12 w/Probe Tanks; w/o 8 HC Relays
Part #: 7000704 - G12 w/CC and Probe Tanks
Accurate, Real-Time Tank Level Monitoring with TruTank™

TruTank™ is an innovative tank monitoring system for RV and Marine applications that allows end-users peace-of-mind with accurate tank level readings even in odd geometry tanks. TruTank™ displays tank levels in percentages instead of 3rd’s, providing a precise level reading.

Features:
- Utilizes sonic wave technology to accurately measure the volume of the tank
- Accurately displays tank levels in 5% increments
- Adapts to provide accurate tank level readings in odd geometry tanks
- View all tank levels at a glance
- Tank Diagnostics

Additional Benefits:
- Not susceptible to inaccurate readings from tank ‘scum’ buildup
- Not affected by condensation droplets on the outside of the tank
- Not affected by noise from outside sources being too close to sensors
- No concern of the stick-on sensor peeling off of the tank
- No cleaning of tanks prior to installation to ensure adhesion
Features:
- Houses the HCR7, HCD1, ARY4 and RSI7 modules
- 12 module versions with up to 80 outputs respectively
- The G3 DC Enclosure’s rugged, compact design allows quick installation and load hookup
- Durable powder coated finish

Description:
The G3 DC Control panel offered by Firefly Integrations/Spyder Controls Corporation provides a unique and compact solution that facilitates the centralized control of DC loads. Offered in 2 sizes, this enclosure system forms a very attractive and informative display with access to all status LED’s, over-current protection and manual over-ride features that are built into each module. Some of the many benefits of this system includes ease of installation, significantly reduced number of connections and a very neat and tidy solution for control of DC loads.
The complete automation package of your dreams.
Would you like to monitor and control your coach remotely?

- Check Your Temperature
- Adjust Your Temperature
- Start/Stop Your Generator
- Security/Check Cameras
- Operate Coach Lighting
- Check Tank Levels

Vegatouch is a powerful and reliable coach control system packed into a clean, simple interface. Completely customizable, the Vegatouch system can connect to a vast array of components to give customers total control of all electrical, electronic and mechanical systems from a built-in touchscreen or wirelessly, from a smartphone or tablet.

Allow customers to monitor cameras, tank levels, batteries; power levels and temperatures while giving them complete control of every component—audio/video, lighting, awnings, shades, climate systems, generators, pumps, slide-outs and more—all from a single user interface.

Vegatouch can also help simplify complex systems. Imagine a single “Theater Mode” button that lowers the lights and shades, powers on the TV and Video player, and brings the remotes up on screen. Imagine setting one temperature that can automatically control a variety of heating and cooling equipment across multiple zones. The possibilities are virtually limitless with Vegatouch at your fingertips.

Attractive Features: A few of the many features include lighting that can be incrementally dimmed to preset levels or the ability to leave a room and turn all the lights off with the press of a single button.

Touchpad: Operate the lighting, window coverings and mechanical systems from multiple convenient locations with the simple touch of a button!

www.VEGATOUCH.com
**Features:**
- **Easy Installation:** Mount and plug in network cable, download app, and connect
- **Long Range:** Controls the entire coach anywhere within a 90 foot range
- **Supports all mobile devices including iOS/Android smartphones and tablets**
- **Compact design to fit in tight spaces**

**Description:**
The Vegatouch Mira Module connects to the RV-C network and serves as a bridge between the network and your phone and/or tablet. Mira uses wireless technology that transmits up to 90’ away. It enables end-users to control and/or monitor their coach systems using their mobile devices. Mira can control sophisticated RV systems including HVAC, lighting, awnings, slides, generator, AGS, water pump, and tanks.

**Coach Control on Your Device!***
Mount, Plug in, Download App, and Connect!

* Simulation of the Mira App only. Phones not included.

Part #: 55520A
**Vegatouch Eclipse Module**

**Features:**
- **Easy Installation:** Mount and plug in network cable, download app, and connect
- **Controls the entire coach locally offline and remotely anywhere there’s internet**
- **Supports all mobile devices including iOS/Android smartphones and tablets**
- **Compact design to fit in tight spaces**

**Description:**
The Vegatouch Eclipse Module connects to the RV-C network and serves as a bridge between the network and your phone and/or tablet. Eclipse uses wireless technology that allows both local and remote control anywhere there’s internet! It enables end-users to control and/or monitor their coach systems using their mobile devices. Eclipse can control sophisticated RV systems including HVAC, lighting, awnings, slides, generator, AGS, water pump, and tanks.

Part #: 555520A

**Coach Control on Your Device!**

*Simulation of the Mira App only. Phones not included.*
**DC Fuse Module**

**Features:**
- Up to 24 channels at 30A per channel to a max of 250A per panel
- Built-in LED status indicator for each fuse/circuit breaker
- Can be panel mounted or flush mounted
- Durable power design with powder coated finish

**Description:**
The DC Fuse panel offered by Firefly Integrations/Spyder Controls Corporation provides a rugged and compact solution for the distribution and over-current protection of DC loads. This 24 channel panel forms a very attractive and informative display with access to all status LED’s, over-current protection for each circuit. The high-current capabilities and various mount options make this panel the perfect choice for a simple, reliable and clean installation.

**G3 - 6 Card Shade Enclosure**

**Features:**
- Houses up to 6 HCR8 modules for up to 24 channels
- Compact design allows quick installation and load hookup
- Durable power design with powder coated finish

**Description:**
The G3-SHD6 enclosure offered by Firefly Integrations/Spyder Controls Corporation provides a distinctive and compact solution that facilitates the centralized control of medium-current DC motor loads. Dedicated to house the HCR8 control modules, this enclosure system is primarily used in the control of motorized window coverings. Some of the many benefits of this system includes ease of installation, significantly reduced number of connections and a very neat and tidy solution for control DC shades, as well as other medium current DC loads.
G5 Shade Module / HCR-10 Slide Module

G5 Shade Control Module
Features:
• (8) medium-current H-bridge outputs per module
• Built-in ignition/park brake input to limit driver’s area shade DOWN function

Description:
The G5 Shade Control Module offered by Firefly Integrations/Spyder Controls Corporation provides the perfect solution for the local or centralized control of multiple window shades. This standalone module operates up to 8 independent window shade motors in a form factor that fits easily in your hand. Built-in H-bridge configuration, over-current protection and ignition/park brake disable inputs are standard features. The G5 Shade Control module can also be used to operate other medium-current motor loads that require reverse polarity type outputs.

Part #: 70535

HCR-10 Slide Module
Features:
• (8) medium-current H-bridge outputs per module
• Built-in ignition input to limit Slide operation while the coach is running

Description:
The HCR-10 Slide Control Module offered by Firefly Integrations/Spyder Controls Corporation is capable of controlling up to four slides in a form factor that fits easily in your hand. The HCR-10 controls Built-in H-bridge configuration, over-current protection and ignition disable inputs are standard features.

Part #: 70180
HCD2 Module / HCR12 Module

**HCD2 Dimmer Module**

**Features:**
- 8 independent channels with 10A per channel rating
- Built-in over-current protection with discrete status indicator LED’s for each channel
- Supports standalone or centralized panel installations/applications
- The rugged, compact design of the HCD2 module includes several connector options
- Channels A and B can each provide 10A constant power

**Description:**
The HCD2 Dimmer module offered by Firefly Integrations provides a very compact and cost effective solution for the control of a wide range of high-current DC loads. This standalone module can be used in both dimming and non-dimming lighting applications, as well as the control of pumps, valves, solenoids and unidirectional motor applications.

**HCR12 HVAC Module**

**Features:**
- 4 HC outputs with up to a 60A fuse per output
- Reverse Polarity Pair option (70186) 15A Max per output

**Description:**
The HCR12 HVAC Module provides high current output for A/C condensers, fans, and compressors while taking the amperage load off of the main control panel in the Firefly system. Each of the 4 HC outputs support up to a 60A fuse. The HCR12 has a reverse polarity pair option with 15A max per RP output.
Features:
- Monitoring for DC voltage and current on 2 separate DC sources (Example; House and Chassis battery banks)
- Built-in 200A battery disconnect solenoid
- Auto-battery merge support for maintaining charge in 2 different battery banks
- Up to 8 relay outputs and 10 inputs for general purpose I/O purposes
- Options for up to 6 thermistor inputs and 5 tank level monitors

Description:
The Power Management Module 1 (PMM1) is a very powerful and feature-rich product for DC power management applications for RV and Marine applications. This multi-purpose module performs all aspects of DC power management from voltage and current monitoring for multiple battery sources to on-board high-current battery disconnect support of up to 200A continuous and off-board battery merge output for maintaining proper charge on two independent battery banks. Additional options include multiple relay outputs, support for tank level monitoring, temperature and climate control and multiple inputs from devices such as rocker switches and limit switches.
Features:

• Standard outputs for compressor, fans and heat strip
• Built-in freeze sensor input is integrated in the module and communicates this status to existing touchscreens
• Support for up to 4 networked A/C’s in a single RV network
• Can be operated directly from network power and CAN connection

Description:

Exciting new features in A/C control are now possible such as real-time control and feedback of the cooling, heating and fan speed control for multiple A/C’s across all existing keypads and touchscreens in the RV. The A/C modules eliminate the need to external wall-mount thermostats and can used in combination with existing vent fan operations to cool the RV. This module can be installed in the rooftop A/C unit at each A/C location. Start taking advantage of the benefits this module provides today by significantly reducing the roof harnesses and adding advanced networked A/C controls!

Part #: 70036 - AC & Heat Pump

Part #: 70037 - AC Only
**Features:**
- Standard outputs for vent fan lid direction, fan speed and direction
- Built-in rain sensor input closes the vent fan lid and communicates this status to existing touchscreens
- Support for up to 4 networked vent fans in a single RV network
- Very small size easily installs at each fan location

**Description:**
Exciting new features in vent fan control are now possible such as real-time control and feedback of the rain sensor status, fan speed and direction and vent lid control for multiple fans across all existing keypads and touchscreens in the RV. Additional features allow the vent fan to be thermostatically controlled and can be used in combination with existing A/C operations to cool the RV. This tiny device takes very little space to install at each fan location. Start taking advantage of the benefits this module provides today by significantly reducing the roof harnesses and adding advanced networked vent fan controls!

**Part #: 70038**
**RSI8 Standalone**

**Features:**
- 5-pair channel multi-purpose digital inputs (up to 15 inputs)
- Accepts both high-side and low-side inputs (jumper selectable)
- 7 inputs for Fresh, Grey, Black tanks and/or DC voltage for Chassis and House etc.
- 2 Trunkline connectors
- 12 drop cable connectors

**Description:**
Similar to the RSI7 Input module, the RSI8 provides a very compact and innovative solution for the processing of various types of digital inputs. This standalone module allows any type of external switch, contact closure or digital input Plus adds tanks sensing and DC voltage along with Network connections. This is a very economical piece loaded with lots of features.

**Part #: 70525C - 10 Input (Pictured Left)**
**Part #: 70526B - 15 Input**

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**RSI9 Standalone**

**Features:**
- 5-pair channel multi-purpose digital inputs (up to 15 inputs)
- Accepts both high-side and low-side inputs (jumper selectable)
- 7 inputs for Fresh, Grey, Black tanks and/or DC voltage for Chassis and House etc.
- 2 Trunkline connectors
- 12 drop cable connectors
- 6 inputs for temperature sensor zones

**Description:**
RSI9 provides a very compact and innovative solution for the processing of various types of digital inputs. This standalone module allows any type of external switch, contact closure or digital input Plus adds tanks sensing and DC voltage along with Network connections. In addition, the RSI9 includes a temperature connector that utilizes 6 inputs to display and/or control HVAC. This is a very economical piece loaded with lots of features.

**Part #: 70529B - 10 Input**
**Part #: 70529D - 15 Input (Pictured Right)**
HCR3 Module

Features:
• 8 independent channels at 15A per channel (AC or DC)
• Discrete status indicator LED’s and manual over-ride switches

Description:
The HCR3 Relay module offered by Firefly Integrations/Spyder Controls Corporation is flexible and a compact solution for the control of a wide range of high-current AC and DC loads. This standalone module can be used for the switching and control of lighting, pumps, valves, solenoids and unidirectional motor applications. This HCR8 supports semi-centralized and decentralized installations for greater flexibility.

Part #: 70113 (8 Channel - 15A)
Part #: 70114 (4 Channel - 30A per channel)
AC Power Monitor

Features:
- Installs directly into a ¾” (or larger) round knockout
- Operates directly off of RV-C network power without the need to source separate 12V supplies.
- Support for 50A, 30A, 20A and 15A AC power systems
- Measures AC current, voltage, frequency and phase all within a single device
- Remotely connected current CT rings eliminate the need for installers to route the Primary LINE wires through fixed CT’s

Description:
The AC Power Monitor is a key addition to the total RV power management system. It is one of the most inexpensive solutions available on the market to measure AC voltage, current and frequency for advanced power management solutions and information display on touchscreens. This component has been designed to be easily installed with various transfer switches or AC/DC converter panels with minimal space requirements. This product is listed to conform with CSA-C22.2 No. 61010-2-030 and UL 61010-2-030 standards.
Drop Tap Terminals

Primary Drop Tap
Part #: 70971

Common Drop Tap
Part #: 70970

Terminator Drop Tap
Part #: 70972

Features:
- 4 Drop Cable Termination Points/Drop Tap
- Easy Connections for the Trunk Cable to come in and go out
- Low Profile for preferential placement
- Rugged, compact design allows quick plug and play installation and load hookup

Part #: 70974

Part #: 70975

Part #: 70091

Part #: 70090
RV-C Network Wiring Guidelines

The RV-C network wiring is a very important aspect of a functional and reliable network. The network wiring and connections are essentially the ‘spinal cord’ of the network through which messages are transmitted to each of the RV-C devices in the network! Therefore, it is very important that special care and attention to the following guidelines be observed.

Spyder Controls Corporation has carefully developed a wiring system to ensure a successful installation that is easy and simple to complete. Below is a very basic diagram that illustrates the various aspects of the Spyder Controls RV-C Network Wiring System.

**Part #: 70972**

**Terminator Drop Tap**

Fig. 1A: Terminator taps are located at each end of the network.

Drop cables can be a maximum of 25’ on a single run. Runs longer than 25’ must use Trunk.

**Part #: 70971**

**Primary Drop Tap**

Fig. 1B: Primary taps are located in the center of the network to provide 12V and Ground

**Part #: 70970**

**Common Drop Tap**

Fig. 1C: Common taps are located throughout the network where drop cables need to connect

Switches that are close in proximity can either be run directly to the network or attached to a G4 Common Tap that will then attach via a drop cable with a mini clamp end.

The 70049 drop cable and 70046 trunk cable are the specific wire harnesses used.

**Part #: 70091** (Female)  
**Part #: 70090** (Male)

Drop cable mini clamp Connectors are often male to male ends. Some switches and modules have what are known as “pig tails” which is a drop cable soldered/glued to the component with a male mini clamp end. In these instances, the drop cable run will be male/female.

The CAN Router card can either be standalone or located within a G6 Panel. In this example, it is standalone. Each port on a CAN card is considered its own network and must be double-terminated. Dip switches on the back of the card can be set to allow one termination per port, which allows the network to only require one additional termination point.
Firefly Integrations, LLC (hereafter FFI) endeavors to use high quality components in the development of our advanced 12V electrical systems. Our products are thoroughly tested prior to shipment. This permits FFI to offer a guarantee against defects in workmanship on FFI system parts.

**No other express warranty applies:** This warranty is the sole and exclusive warranty. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of FFI.

**What is Covered?**

a. This warranty covers any defects in materials or workmanship during the warranty period, excluding any and all exemptions stated below.

**How Long Does Coverage Last?**

a. This warranty lasts for a period of one (1) year from the date of retail sale of the coach.

b. This warranty is limited to a maximum of two (2) years from original installation by a qualified professional if the coach is not sold within 12 months of the manufacturing date.

**What is Not Covered? (Exemptions)**

a. Products that have been altered, modified, repaired, or serviced by anyone other than the service facilities authorized by FFI to render such services.

b. Products with serial numbers or other distinguishing numbers or codes that have been altered or removed.

c. Products that have been subject to accident, misuse, abuse, fire, water damage, acts of God, improper installation, or operated contrary to the instructions contained in the Owner’s Manual, at any time before or after original installation.

d. Damage by operation beyond the specifications of the product. (i.e. using inappropriate fuse size, etc.)

e. Use of any other network wiring other than FFI network wiring; other network wiring will damage the FFI system and will effectively void the warranty on the part(s) and/or system.

f. Labor and/or expenses incurred.

**What Will FFI Do?**

a. Run a diagnosis of each returned item.

b. Repair or replace any defective parts. Replacement parts may be new or refurbished at FFI’s sole discretion.

c. Alternatively, at FFI’s sole discretion, FFI may provide a credit for returned part(s), not exceeding the original sale value of the returned part(s), if this method is agreed upon prior to the return. Credit will not be issued until the return has been received by FFI and diagnosis of the returned part(s) has been completed.

**How to Get Service**

a. Contact FFI via email at warranty@fireflyint.com to receive a Return Goods Authorization (RGA). A RGA must be obtained before any product can be returned to FFI.

b. Once the RGA has been assigned by FFI, the RGA must be referenced on the paperwork to be returned.

**Delivery of Returned Item(s)**

a. The Returnee is responsible for packaging the returned part(s) appropriately, with sufficient protection against shipping damage; FFI will not be responsible for any damage to the returned part(s) due to improper packaging.

b. It is the returnee’s responsibility to provide a description of the problem and/or diagnosis, unit number from which the returned part(s) are from, and the correct address to ship the repaired and/or replaced products to.

c. The repaired or replaced part(s) will be returned from FFI freight prepaid via UPS Ground.

**Diagnosis Testing**

a. If part(s) being replaced are within the timeline of the Firefly Warranty, but testing the returned part(s) during diagnosis proves the item(s) to be either without defect or non-warrantable, all costs and shipping charges of the part(s) will be charged to the recipient of the part(s).
Unparalleled Service

We strive to prove ourselves as a valuable partner to each client. We establish and strengthen our client partnerships by offering advanced engineering support through every detail of a new project, through our ability to deliver completely ready-to-install products and our in-field training and aftermarket support.

Top-of-the-line Products Including:

- Custom Designed Electronic Packages
- Automation Audio/Video Control
- Tank Monitor System
- RV-C Control Systems
- Remote Access
- Total Coach Control Systems

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