


# CATV PRODUCTS



  
**EMERSON**<sup>™</sup>  
Network Power

**Viewsonics**  
Connectivity Solutions

**Emerson Network Power Connectivity Solutions** has a wide range of cable assemblies and connectors suited for RF, Microwave and Fiber Optic signal transmission. Connectivity Solutions is a vertically integrated supplier of custom, fixed length and semi-rigid cable assemblies from DC to 50 GHz. Our product lines deliver custom-engineered products and solutions to satisfy the most demanding and complex requirements.

### **AIM-Cambridge** Connectivity Solutions



Aim-Cambridge has a universal line of products that offer cost effective, high quality solutions for connectivity. Our connectors are available in BNC, Type N, F Type, RCA, UHF, Mini-UHF, TNC, D-Sub and Modular Plugs for Data/Telecom applications. In addition, we stock a wide variety of cables for A/V, SATV, CATV, computer and LAN applications, as well as a complete line of termination tools and structured cabling products. AIM-Cambridge promises that its product will provide you with unmatched consistency, quality, reliability and ease of use.

### **Johnson** Connectivity Solutions



Johnson designs and manufactures an industry leading line of RF coaxial connectors and adapters, which are available in both 50 and 75 ohm versions. Johnson connectors are designed to provide the highest quality data transmission for audio, video and data applications. The Johnson line of products can address frequency ranges from DC to 46GHz and all sizes from Ultra-miniature interfaces (UMC), Micro-miniature, (MCX, MMCX, SMP), Subminiature (SMA, SMB, SMK, kwiQMate™), Medium connectors (Type N connectors) through to large connectors (DIN7/16). The breadth of products available within the Johnson range includes board and cable mount connectors as well as semi-rigid, conformable, and flexible RF coaxial cables.

### **Midwest Microwave** Connectivity Solutions



Midwest Microwave manufactures passive coaxial microwave components that are known for their precision performance and high quality that meets the precise requirements of the RF/Microwave industry. Our broad product portfolio includes: Attenuators, Precision Adapters, Terminations, DC Blocks, Power Dividers, Couplers, Equalizers, Phase Shifters, Connectors, Custom Cable Assemblies and Test Cables that are designed and manufactured for both military and commercial applications.

Midwest also offers a wide variety of Qualified Product List (QPL) approved products in the M3933, M39030 and M39012 series, as well as many DESC/DSCC approved models.

### **Semflex** Connectivity Solutions



Semflex designs and manufactures low loss, flexible, microwave coaxial cable and custom cable assemblies for the military/aerospace, commercial OEM and test instrumentation markets. Semflex offers cables ranging from DC to 50 GHz, available with ultra low insertion loss, power ratings up to 21 KW, and available with all popular connectors.

### **Stratos** Connectivity Solutions



Stratos optical connectivity products is globally recognized as highly reliable, cost-effective, and provides optical connectivity solutions that are virtually immune to dust, mud, oil, water, and other contaminants.

Our expanded beam connectivity products are ideal for harsh environment applications in the broadcast, industrial, petrochemical and military/aerospace markets where high reliability, low maintenance and quick serviceability are critical requirements. Our optical active products are used mainly in military, aerospace and industrial markets where high speed/high reliable performance is mission critical. The actives product line includes optical transceivers, optical media converters and custom devices tailored to your application.

### **Trompeter** Connectivity Solutions



Trompeter is recognized as a global leader in delivering best in class RF connectivity products. The Trompeter line of patch jacks, RF connectors, cable assemblies, HDTV digital technology and DS3 connectivity solutions is unrivalled. Our mission is to provide products that continually deliver the highest quality signal integrity for the most demanding applications in Telecom, Central Office, Broadcast, Military Aerospace, and Instrumentation markets worldwide. Our extensive line of cost-effective products are rigorously designed and tested to provide the critically engineered solutions necessary to enhance the end-user's overall experience.

### **Vitelec** Connectivity Solutions



Vitelec provides a comprehensive range of RF coaxial interconnect products and cable assemblies. The company has a long established reputation for offering quality and innovation with a wide range of both standard and custom designed products for the electronic and communication industries.

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# Mini Amplifier with Active Return

## VSMA Series Residential Amplifiers

- 10dB Gain
- Active return
- Nickel-Plated, Precision Machined Brass “F” Ports with 360° Contacts
- All Ports Hermetically Sealed to Withstand 30 psi of Pressure
- Triple-Plated Corrosion Protection

Emerson Network Power Connectivity Solutions proudly offers mini residential amplifier in bi-directional configuration. Unified into a common housing design, this amplifier offers unparalleled flexibility for every network system. The triple-plated die cast zinc housing with nickel-plated, machined brass F-connectors provides the highest environmental protection possible. This amplifier has input surge protection to 1000 volts and provide reliable one or two-way performance at economical price. Direct DC powering (included) or remote power inserter (optional) are standard, as well as 110 volt power adaptors that has been UL approved.



| VSA10/10-1000-2WZ-PI                |   |
|-------------------------------------|---|
| Mechanical F-Port Seal (psi)        | 30  |
| Power Consumption (W)               | 3.0   |
| Rated Operating Temperature         | -40°F to +140°F                             |
| Power Adapter                       | Input: 120VAC, 60Hz    Output: 12VDC, 200ma |
| Housing Dimensions (L"xW"xH")(nom.) | 0.8 x 1.9 x 2.7                             |
| Weight (oz.)(nom.)                  | 6.8   |
| RFI Shielding (dB)                  | > 120                                       |
| <b>Forward Path Specifications</b>  |   |
| Pass Band (MHz)                     | 54 - 1000                                   |
| Gain (Input to Output) (dB) (typ)   | 10.0  |
| Flatness (dB)                       | ± 1.5                                       |
| Return Loss (dB) (min)              | 13.0  |
| Noise Figure (dB) (max)             | 7   |
| Channel Loading (NTSC)              | 79 analog and 33 digital                    |
| Reference Input Level (dBmV)        | 10  |
| Composite Triple Beat (dBc)         | < -65                                       |
| Composite Second Order (dBc)        | < -75                                       |
| Hum Modulation (dBc)                | < -60                                       |
| <b>Reverse Path Specifications</b>  |   |
| Pass Band (MHz)                     | 5 - 40                                      |
| Gain/ Insertion Loss (dB) (typ)     | 10.0  |
| Flatness (dB)                       | ± 1.0                                       |
| Return Loss (dB) (min)              | 13  |



# VSMA Series Single-Output Residential Mini-Amplifiers with Passive Return

- 15dB and 10dB Gain Models Available
- Nickel-Plated, Precision Machined Brass "F" Ports with 360° Style Contacts
- 6kV Surge Protection on all Ports
- Triple-Plated Corrosion Protection
- PTC Short-Circuit Protected Wall Mount Power Adapter
- All Ports Heretically Sealed to Withstand 30psi for Outdoor Use
- Designed with a Low Noise Figure
- LED Power Indicator Light

This compact Single-Output VSMA 600C series of Residential Mini-Amplifiers is designed to meet the latest standards of new digital set top boxes for High-Definition TV and multimedia applications. These VSMA bi-directional amplifiers are powered by a low noise GaAs MMIC that provides consistent Gain in the forward band (52-1000MHz) and passive in the return band (5-42MHz).



All ports are nickel plated, precision machined brass with 360° style "F" port contacts and meet the requirements of SCTE SP-400. All ports are hermetically sealed to withstand 30 psi of pressure and the zinc die cast housing is triple plated for maximum corrosion resistance, even in the harshest environment.

Included with all amplifiers is a 110VAX/12VDC wall mount power adaptor. The adaptor can be connected directly to the Power In "F" port of the amplifier or remotely through an optional VSPI-600 Power Inserter. This power adaptor has PTC short-circuit protection on the output and 6kV surge protection on the AC input.

## Get Connected...

### High Performance RF/MW & Optical Connectivity

Emerson Network Power Connectivity Solutions delivers innovation in interconnect technology for optimum signal integrity.

Your system's performance can be enhanced and assured by Emerson Connectivity Solutions through:

- RF coaxial connectors
- Twinax and microwave cable assemblies
- High performance microwave components

Just another reason why Emerson Network Power is the global leader in enabling Business-Critical Continuity™.

Find out more information at [www.EmersonConnectivity.com](http://www.EmersonConnectivity.com)



# VSMA Series Single-Output Residential Mini-Amplifiers with Passive Return

## Residential Amplifier Specifications

| Model:                                | VSMA-601C  | VSMA-601C-10             | VSMA-611C                |
|---------------------------------------|--|--------------------------|--------------------------|
| Number of Output Ports                | 1 Port   | 1 Port                   | 1 Port                   |
| Surge Protection                      | Combination Wave, 6kV/3kA per IEEE C62.41-1991 Cat B3 on all RF ports except remote powering port which has ring wave, 6kV/200A per IEEE C62.41-1991 Cat. A3 |                          |                          |
| Mechanical F-Port Seal (psi)          | 30.0   | 30.0                     | 30.0                     |
| Power Consumption (W)                 | 2.0  | 2.0                      | 2.0                      |
| Rated Operating Temperature (°F)      | -40 to 140   | -40 to 140               | -40 to 140               |
| Power Adapter                         | Input: 120VAC, 60Hz Output: 12VDC, 200ma   |                          |                          |
| Housing Dimensions (L"xW"xH") (nom.)  | 2.6 x 1.9 x 0.8  | 2.6 x 1.9 x 0.8          | 3.2 x 1.53 x 0.8         |
| Weight (oz) (nom.)                    | 7.0  | 7.0                      | 6.7                      |
| RFI Shielding (dB)                    | > 120  | > 120                    | > 120                    |
| <b>Forward Path Specifications</b>    |  |                          |                          |
| Pass Band (MHz)                       | 52 -1000   | 52 -1000                 | 52 -1000                 |
| Gain (Input to Output) (dB) (typ)     | +15.0  | +10.0                    | +15.0                    |
| Flatness (dB)                         | ± 0.50   | ± 0.50                   | ± 0.50                   |
| Return Loss (dB) (min)                | 20.0   | 20.0                     | 20.0                     |
| Noise Figure (dB) (max)               | 3.5  | 3.5                      | 3.5                      |
| Channel Loading (NTSC)                | 79 analog and 33 digital   | 79 analog and 33 digital | 79 analog and 33 digital |
| <b>Reference Input Level (dBmV)</b>   | 10.0   | 10.0                     | 10.0                     |
| Composite Triple Beat (dBc)           | < -75  | < -75                    | < -75                    |
| Composite Second Order (dBc)          | < -62  | < -62                    | < -62                    |
| Cross Modulation (dBc)                | < -75  | < -75                    | < -75                    |
| Hum Modulation (dBc)                  | < -80  | < -80                    | < -80                    |
| <b>Isolation</b>                      |  |                          |                          |
| Input to DC Port (dB) (min)           | 55.0   | 55.0                     | 55.0                     |
| Output to Output 5-15 MHz (dB)        | N/A  | N/A                      | N/A                      |
| Output to Output 15-42 MHz (dB)       | N/A  | N/A                      | N/A                      |
| Output to Output 52-860 MHz (dB)      | N/A  | N/A                      | N/A                      |
| Output to Output 860-1000 MHz (dB)    | N/A  | N/A                      | N/A                      |
| <b>Group Delay (3.58 MHz span)</b>    |  |                          |                          |
| Ch 2-5 (ns)                           | < 12   | < 12                     | < 12                     |
| Ch 6 & up (ns)                        | < 5  | < 5                      | < 5                      |
| <b>Reverse Path Specifications</b>    |  |                          |                          |
| Pass Band (MHz)                       | 5 - 42   | 5 - 42                   | 5 - 42                   |
| Return Path Insertion Loss (dB) (typ) | -0.8   | -0.8                     | -0.8                     |
| Flatness (dB)                         | ± 0.5  | ± 0.5                    | ± 0.5                    |
| Return Loss (dB) (min)                | 20.0   | 20.0                     | 20.0                     |
| <b>Group Delay (1.5 MHz span)</b>     |  |                          |                          |
| 5-7 & 40-42 MHz (ns)                  | <20  | <20                      | <20                      |
| 7-42 MHz (ns)                         | <10  | <10                      | <10                      |
| Intermodulation of internal splitter* | N/A  | N/A                      | N/A                      |

\* Measured at 74MHz on Output with 37MHz at 55dBmV inserted on Output after 5x ring wave surge.

# VSMA Series Multi-Output Residential Amplifiers with Passive Return

- Nickel-Plated, Precision Machined Brass "F" Ports with 360° Style Contacts
- 6kV Surge Protection on all Ports
- Built-In Cable Modem Compatible Splitter
- SCTE-Compliant Housing and Port
- Triple-Plated Corrosion Protection
- PTC Short-Circuit Protected Wall Mount Power Adapter
- All Ports Heretically Sealed to Withstand 30psi for Outdoor Use
- Designed with a Low Noise Figure
- LED Power Indicator Light

The Multi-Output VSMA 600C series of Residential Amplifiers in 4 and 8 output versions, in addition to our single-output models. Designed to meet the latest standards of new digital set top boxes for High-Definition TV and multimedia applications, these VSMA bi-directional amplifiers are powered by a low noise GaAs MMIC that provides consistent 15dB Gain in the forward band (52-1000MHz) and passive in the return band (5-42MHz).

Constructed with a built-in internal splitter, these amplifiers are Cable Modem ready with high port-to-port isolation and -95dBc intermodulation. All ports are nickel plated, precision machined brass with 360° style "F" port contacts and meet the requirements of SCTE SP-400. All ports are hermetically sealed to withstand 30 psi of pressure and the zinc die cast housing is triple plated for maximum corrosion resistance, even in the harshest environment.

Included with all amplifiers is a 110VAC/12VDC wall mount power adaptor. The adaptor can to the Power In "F" port of the amplifier or remotely through an optional VSPI-600 Power adaptor has PTC short-circuit protection on the output and 6kV surge protection on the AC





**EMERSON**  
Network Power  
Connectivity Solutions

A global manufacturer of connectivity products supporting; wireline & wireless communications, networking, test & measurement, broadcast CableTV, medical, military and industrial applications.



**Viewsonics**  
Connectivity Solutions



**Residential Amplifiers**  
Passive Return



**Viewsonics Lockinator™  
& Gilbert™ compatible**  
Locking Terminators



**Color-Coded ID Tags**



**Signal Generators**  
Tools & Test Equipment



**Pocket Oscillator**



**Tags & Sleeves**

**Call 1-507-833-8822**  
[www.EmersonConnectivity.com](http://www.EmersonConnectivity.com)

# VSMA Series Multi-Output Residential Amplifiers with Passive Return

## Residential Amplifier Specifications

| Model:                                | VSMA-604C  | VSMA-608C                |
|---------------------------------------|--|--------------------------|
| Number of Output Ports                | 2 Ports  | 2 Ports                  |
| Surge Protection                      | Combination Wave, 6kV/3kA per IEEE C62.41-1991 Cat B3 on all RF ports except remote powering port which has ring wave, 6kV/200A per IEEE C62.41-1991 Cat. A3 |                          |
| Mechanical F-Port Seal (psi)          | 30.0   | 30.0                     |
| Power Consumption (W)                 | 2.0  | 2.0                      |
| Rated Operating Temperature (°F)      | -40 to 140   | -40 to 140               |
| Power Adapter                         | Input: 120VAC, 60Hz    Output: 12VDC, 200ma  |                          |
| Housing Dimensions (L"xW"xH") (nom.)  | 3.6 x 2.4 x 0.95   | 3.6 x 3.3 x 0.95         |
| Weight (oz) (nom.)                    | 10.5   | 15.0                     |
| RFI Shielding (dB)                    | > 120  | > 120                    |
| <b>Forward Path Specifications</b>    |  |                          |
| Pass Band (MHz)                       | 52 -1000   | 52 -1000                 |
| Gain (Input to Output) (dB) (typ)     | 8.0  | 4.0                      |
| Flatness (dB)                         | ± 0.75   | ± 0.75                   |
| Return Loss (dB) (min)                | 20.0   | 20.0                     |
| Noise Figure (dB) (max)               | 3.8  | 3.8                      |
| Channel Loading (NTSC)                | 79 analog and 33 digital   | 79 analog and 33 digital |
| <b>Reference Input Level (dBmV)</b>   |  |                          |
| Composite Triple Beat (dBc)           | < -75  | < -75                    |
| Composite Second Order (dBc)          | < -62  | < -62                    |
| Cross Modulation (dBc)                | < -75  | < -75                    |
| Hum Modulation (dBc)                  | < -80  | < -80                    |
| <b>Isolation</b>                      |  |                          |
| Input to DC Port (dB) (min)           | 55.0   | 55.0                     |
| Output to Output 5-15 MHz (dB)        | 25.0   | 25.0                     |
| Output to Output 15-42 MHz (dB)       | 32.0   | 32.0                     |
| Output to Output 52-860 MHz (dB)      | 25.0   | 25.0                     |
| Output to Output 860-1000 MHz (dB)    | 22.0   | 22.0                     |
| <b>Group Delay (3.58 MHz span)</b>    |  |                          |
| Ch 2-5 (ns)                           | < 12   | < 12                     |
| Ch 6 & up (ns)                        | < 5  | < 5                      |
| <b>Reverse Path Specifications</b>    |  |                          |
| Pass Band (MHz)                       | 5 - 42   | 5 - 42                   |
| Return Path Insertion Loss (dB) (typ) | -7.5   | -11.0                    |
| Flatness (dB)                         | ± 0.5  | ± 0.5                    |
| Return Loss (dB) (min)                | 20.0   | 20.0                     |
| <b>Group Delay (1.5 MHz span)</b>     |  |                          |
| 5-7 & 40-42 MHz (ns)                  | < 20   | < 25                     |
| 7-42 MHz (ns)                         | < 10   | < 10                     |
| Intermodulation of internal splitter* | -95dBc   | -95dBc                   |

\* Measured at 74MHz on Output with 37MHz at 55dBmV inserted on Output after 5x ring wave surge.



# In-Line Equalizers

Emerson Network Power Connectivity Solutions, Viewsonics In-Line Equalizers provide signal level correction at 6dB, 9dB and 12dB increments. VSIEQ products come with a rubber seal on the male port to resist water intrusion and are usable indoors or outdoors over a wide temperature range and linear in performance.

| Specifications |           |                               |                |                   |
|----------------|-----------|-------------------------------|----------------|-------------------|
| Model          | Passband  | Insertion Loss (typ) @550/860 | Value @ 5.0MHz | Return Loss (min) |
| VSIEQ-6-860    | 40-860MHz | 1.0dB                         | 6.0±1.0dB      | 16dB              |
| VSIEQ-9-860    | 40-860MHz | 1.0dB                         | 9.0±1.0dB      | 16dB              |
| VSIEQ-12-860   | 40-860MHz | 1.0dB                         | 12.0±1.0dB     | 16dB              |



VSIEQ

# Isolator

Isolates Cable System Ground From Customers Power Ground. Meets UK spec BS6513, MPT1510, and MPT1520 including shock hazard high voltage (Hi-pot 2120 Volt DC).

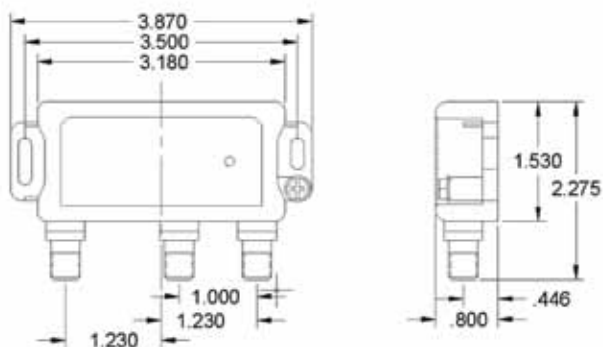
| Specifications        |   |
|-----------------------|---|
| Frequency:            | 5-860MHz  |
| Insertion Loss:       | 0.7dB Maximum 5-550MHz<br>1.5dB Maximum 550-860MHz                        |
| Return Loss:          | 12dB Typical 5-10MHz<br>16dB Minimum 10-600MHz<br>12dB Minimum 600-860MHz |
| Breakdown Voltage:    | 2120 VDC (No less than 1 minute)  |
| Max. Leakage Current: | 0.7mA<br>65dB Nominal   |
| Impedance:            | 75 Ohms   |
| Dimensions:           | 3.5" long x 1" Diameter   |



VSIS-EU

# VSREDP Duplex Filters

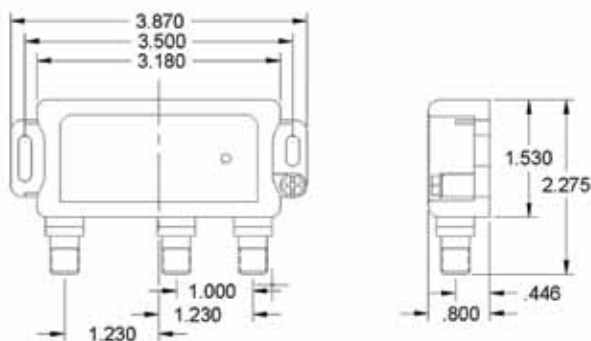
## Mechanical Outline (inches)



## Technical Specifications

| Specifications                                    |                          |                          |
|---|--------------------------|--------------------------|
|   | VSREDP-40                | VSREDP-65                |
| Pass Band:  | 5-40 MHz and 54-1000 MHz | 5-65 MHz and 85-1000 MHz |
| Insertion Loss (dB) (Max) Reverse:                | 1.5                      | 1.5                      |
| Insertion Loss (dB) (Max) Forward:                | 1.0                      | 0.85                     |
| Stopband Attenuation (dB) (Min):                  | 45                       | 45                       |
| Isolation, Between High and Low Ports (dB) (Min): | 45                       | 45                       |
| Return Loss, (dB) (Min):                          | 16                       | 16                       |
| Operating Temperature:                            | -40°F to +140 °F         |                          |
| Housing Dimensions (L"x W"x H") (nom.):           | 0.8 x 1.53 x 3.17        |                          |
| Weight, oz (nom.):                                | 6.6                      |                          |

## Mechanical Outline (inches)



# VSSA-42 Step Attenuator



## Technical Specification

| Specifications                        |   |
|---------------------------------------|---|
|                                       | VSSA-42   |
| Pass Band:                            | DC-1000 MHz   |
| Attenuation Values:                   | Every value from 1 to 42 dB   |
| Attenuation Steps:                    | 1, 2, 3, 6, 10, 10, 10 dB   |
| Step Accuracy:                        | 1 ( $\pm 0.3$ ), 2 ( $\pm 0.5$ ), 3 ( $\pm 0.5$ ), 6 ( $\pm 0.65$ ), 10 ( $\pm 0.75$ ) dB |
| Nominal Impedance:                    | 75 $\Omega$   |
| Return Loss (Typ.):                   | 18 dB   |
| Maximum Operating Power:              | 1/8 W   |
| Operating Temperature:                | -40°F to +140 °F  |
| Housing Dimensions (L"xW"xH") (nom.): | 0.8 x 1.53 x 3.18   |
| Weight, oz (nom.):                    | 6.6   |

For more information on Viewsonics products, please contact our Customer Service group at 507.833.8822

# VSSFO Single-Frequency, VSDFO Dual-Frequency, Pocket Oscillators, VSOPC Silicon Case (optional)

- Available in Single or Dual Frequency Versions
- User Selectable Output Level in nine 5 dB Steps
- Power Saving “Green” Technology Improves Efficiency by 33% and Reduces Hazardous Battery Waste
- Can Be Powered by Either Rechargeable or Non-Rechargeable AA-Size Batteries
- Replaceable F-Female Splice to Ensure Reliable Contact

The VSSFO and VSDFO are pocket oscillators used as signal generators to test the performance of CATV upstream band. They use mini-programmable crystals capable of generating stable and accurate signal over the return band frequency range.

VSSFO generates a single frequency and VSDFO generates any two customer specified upstream frequencies. Output level of each model can be adjusted by a customer from 10 to 50 dBmV in 5 dBmV steps. Power saving design can extend the battery operating life to over 130 hours for a single frequency unit using enclosed alkaline batteries. 3VDC charger adaptor and NiCd rechargeable batteries are standard for dual frequency model and optional for single frequency unit.

Single and Dual Frequency Oscillators are also available with a rugged silicon case (VSOPC) for added protection.



## Pocket Oscillators Specifications

|                               | Dual Frequency Unit VSDFO   | Single Frequency Unit VSSFO                                 |
|-------------------------------|---|---|
| Number of output carriers     | 2   | 1   |
| Carrier selection             | lower freq. on, higher freq. on, both freq. on  | N/A   |
| Standard Output frequency     | any combination of two freq. between 5-65 MHz   | any single freq. between 5-65 MHz                           |
| Standard Output level         | user selectable in nine 5 dBmV steps from 10 to 50 dBmV   |   |
| Output Level accuracy         | ±0.5 dB at the highest output level, ±0.75 dB at all other output levels  |   |
| Harmonics distortion          | -60 dBc   |   |
| Power Saving Feature          | Turns on for 10 seconds, turns off for 5 seconds, extends battery operating time by 33%   |   |
| Standard Included Powering    | 2 x AA NiCd rechargeable batteries, 700 mAh   | 2 x AA Carbon Zinc or Alkaline Batteries                    |
| Operating time @ 70°F         | 16hour min, both carriers on, using supplied NiCd batteries<br>60hour min, both carriers on, using optional alkaline batteries                        | 100 hour min using alkaline batteries                       |
| Power Adapter/ Charger        | Supplied  | Optional  |
| Charging time                 | 16 hour using supplied charger  | 16 hour using optional charger and optional NiCad batteries |
| Operation using adapter       | Unit can operate directly using charger / adapter, do not use if non-rechargeable batteries are installed   |   |
| Low battery indicator         | Turns on when batteries reach approx. 2.2 VDC, output level and frequency no longer guaranteed  |   |
| RF OUT connector              | Type “F” male RF connector, with replaceable F Female F-81 splice, nickel-plated machined brass, 360° F- female pin, ANSI / SCTE P 400-1996 compliant |   |
| Power Adapter                 | 110/ 3.3 VDC 150 mA, with 1.7 mm DC plug  |   |
| Power Consumption (nom.)      | 30 ± 5 mA at 3.0 VDC, both carriers ON  | 15 ± 5 mA at 3.0 VDC  |
| Operating Temperature         | 20 to 120 °F  |   |
| Housing                       | Custom made ABS plastic   |   |
| Housing Dimensions, in (nom.) | 0.9 x 2.7 x 4.6   |   |
| Weight, oz (nom.)             | 6   |   |

## Mechanical Outline (unit: inch)

– Note: VSOPC Silicon Case is sold separately



# Lockinator & Gilbert Style Color-Coded Locking Terminators

- Patented Proprietary Locking System
- Available With or Without Resistor and With Power Blocking Capability
- 2 Prong or 3 Prong Security Type
- Optional T-Seal Moisture Resisting Tap Port Protection
- Color-Coded for Easy Identification
- For Use With Our Individually Serialized TR75LTT or TR75LTTL Tool
- 1 Piece Brass Rotator Prevents Damage During Installation

Emerson Network Power Connectivity Solutions offers a complete line of Viewsonics brand locking terminators and are available in both Lockinator style and Gilbert style. These terminators are designed to provide affordable security from theft of Cable TV service, and are designed to work with Viewsonics 2 and 3 prong locking tools, as well as Gilbert style tools.

Our locking terminators are available in a variety of models and are color-coded for easy identification in the field: silver for a non-resistor version, gold for the resistor version and black for our power blocking terminator.

These locking terminators have housing crush strength of over 700 lbs. making them one of the strongest in network security protection. They have been tested to exceed -90dBc for common path distortion and typically provide better than 30dB return loss. The power-blocking version incorporates a miniature PCB for excellent impedance matching and blocks continuous voltages up to 130 VAC. These terminators are constructed with an internal O-ring and an anodized finish providing excellent corrosion protection for weather exposed applications. All Viewsonics locking terminators can also be used with our T-Seal to provide additional waterproof environmental protection.





# Lockinator & Gilbert Style Color-Coded Locking Terminators



## Signal Security Locking Terminator Specifications

| Model:                           | TRWRLT              | TR75LT              | TR75LT-PB           | TRWRLT3               | TR75LT3               | TR75LT3-PB            |
|----------------------------------|---------------------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|
| Terminator Style                 | Lockinator 2-Prong  | Lockinator 2-Prong  | Lockinator 2-Prong  | Lockinator 3-Prong    | Lockinator 3-Prong    | Lockinator 3-Prong    |
| Terminator Type                  | No Resistor         | With Resistor       | Power Blocking      | No Resistor           | With Resistor         | Power Blocking        |
| Tool Type                        | TR75LTT or TR75LTTL | TR75LTT or TR75LTTL | TR75LTT or TR75LTTL | TR75LTT3 or TR75LTTL3 | TR75LTT3 or TR75LTTL3 | TR75LTT3 or TR75LTTL3 |
| Color                            | Silver              | Gold                | Black               | Silver                | Gold                  | Black                 |
| Pass Band (MHz)                  | N/A                 | 5-1000              | 5-1000              | N/A                   | 5-1000                | 5-1000                |
| Power Blocking Voltage           | N/A                 | N/A                 | 130 VAC             | N/A                   | N/A                   | 130 VAC               |
| Return Loss (dB)(min)            | N/A                 | 25                  | 25                  | N/A                   | 25                    | 25                    |
| RFI Shielding (dB)               | >110                |                     |                     |                       |                       |                       |
| Rated Operating Temperature (°F) | -40 to 140          |                     |                     |                       |                       |                       |
| Common Path Intermodulation      | N/A                 | 90 dBC              | 90 dBC              | N/A                   | 90 dBC                | 90 dBC                |
| Center Conductor Diam. (nom.)    | N/A                 | 0.030 In.           | 0.030 In.           | N/A                   | 0.030 In.             | 0.030 In.             |
| F Port Dimension                 | SCTE Compliant      |                     |                     |                       |                       |                       |
| Rotator/Terminal Material        | Nickel plated zinc  |                     |                     |                       |                       |                       |
| Housing Material                 | Nickel plated zinc  |                     |                     |                       |                       |                       |
| 1000 Hour Salt Fog Test          | Passed              |                     |                     |                       |                       |                       |

| Model:                           | TRWRGTL             | TR75GTL        | TR75GTL-PB     | TRWRGATL    | TR75GATL      | TR75GATL-PB    |
|----------------------------------|---------------------|----------------|----------------|-------------|---------------|----------------|
| Terminator Style                 | Gilbert Spring      | Gilbert Spring | Gilbert Spring | Gilbert CAM | Gilbert CAM   | Gilbert CAM    |
| Terminator Type                  | No Resistor         | With Resistor  | Power Blocking | No Resistor | With Resistor | Power Blocking |
| Tool Type                        | VSGTT-7             | VSGTT-7        | VSGTT-7        | N/A         | N/A           | N/A            |
| Color                            | Silver              | Gold           | Black          | Silver      | Gold          | Black          |
| Pass Band (MHz)                  | N/A                 | 5-1000         | 5-1000         | N/A         | 5-1000        | 5-1000         |
| Power Blocking Voltage           | N/A                 | N/A            | 130 VAC        | N/A         | N/A           | 130 VAC        |
| Return Loss (dB)(min)            | N/A                 | 25             | 25             | N/A         | 25            | 25             |
| RFI Shielding (dB)               | >110                |                |                |             |               |                |
| Rated Operating Temperature (°F) | -40 to 140          |                |                |             |               |                |
| Common Path Intermodulation      | N/A                 | 90 dBC         | 90 dBC         | N/A         | 90 dBC        | 90 dBC         |
| Center Conductor Diam. (nom.)    | N/A                 | 0.030 In.      | 0.030 In.      | N/A         | 0.030 In.     | 0.030 In.      |
| F Port Dimension                 | SCTE Compliant      |                |                |             |               |                |
| Rotator/Terminal Material        | Nickel plated brass |                |                |             |               |                |
| Housing Material                 | Anodized Aluminium  |                |                |             |               |                |
| 1000 Hour Salt Fog Test          | Passed              |                |                |             |               |                |

# Signal Security Lockinator Pedestal Locks

- Patented Proprietary Locking System
- Padlock Style Fits Most Lock Boxes & Pedestal Tab Holes
- Pedlock Style Mounts Flush to Pedestal to Fully Conceal Tabs
- Zinc Construction Provides Extra Strength
- Nickel Plated for Excellent Corrosion Protection
- Works with standard 2 Prong Lockinator Tool

These security devices are used for indoor and outdoor pedestal installations. We offer our 2 Prong style Lockinator locks which are designed to provide assured security from theft of Cable TV service.

The Zinc construction of these locks provides extra strength as a deterrent to cable pirating, while the Nickel plating offers exceptional corrosion protection for outdoor applications.

Available in two different versions, we offer the Padlock style which fits most standard lock boxes and pedestal tab holes, and the Pedlock style which mounts flush to the pedestal to completely hide the tabs. Both of these locks are designed to work with the same 2 prong locking tool that we have designed for our series of Lockinator terminators.



## Signal Security Locks & Tools



Padlock style **Lockinator** Pedestal Lock, 2 prong

|          |
|----------|
| Part No. |
| VSILL-LT |



Pedlock Flush Mount style **Lockinator** Pedestal Lock, 2 prong

|          |
|----------|
| Part No. |
| VSPEDL-2 |



**Lockinator** Terminator Tool, 2 Prong, Chrome Plated, Individually Serialized, 2" length

|          |
|----------|
| Part No. |
| TR75LTT  |



2 Prong



**Lockinator** Terminator Tool, 2 Prong, Chrome Plated, Individually Serialized, 8" length

|          |
|----------|
| Part No. |
| TR75LTTL |

# Signal Security Tags & Sleeves

## Security & Ground Tags



| Part No.   | Security & Ground Tags (100 pack)                   |
|------------|---|
| VSGT-GW    | Ground Wire Warning Tags, Green                     |
| VSST-WSB   | Serialized ID Tag with Write-On Capability, Blue    |
| VSST-WSBLK | Serialized ID with Write-On Capability, Black       |
| VSST-WSDG  | Serialized ID with Write-On Capability, Dark Green  |
| VSST-WSLG  | Serialized ID with Write-On Capability, Light Green |
| VSST-WSGO  | Serialized ID with Write-On Capability, Gold        |
| VSST-WSO   | Serialized ID with Write-On Capability, Orange      |
| VSST-WSP   | Serialized ID with Write-On Capability, Purple      |
| VSST-WSR   | Serialized ID with Write-On Capability, Red         |
| VSST-WSW   | Serialized ID with Write-On Capability, White       |
| VSST-WSY   | Serialized ID with Write-On Capability, Yellow      |

## 75 Ohm Terminators

| Part No. | 75 Ohm Terminators                           |
|----------|--|
| 25-7100  | F-59T Mail Terminator, 1/2 watt @ 5%         |
| GTR59S   | F-59T Male Spinner Terminator, 1/2 watt @ 5% |



25-7100



GTR59S

**Emerson Network Power Connectivity Solutions, Inc.,  
including its subsidiaries Stratos International, Inc., Trompeter Electronics, Inc., and Semflex, Inc.**

**TERMS AND CONDITIONS OF SALE**

Emerson Network Power Connectivity Solutions, Inc. is herein referred to as the "Seller" and the customer or person or entity purchasing goods ("Goods") from Seller is referred to as the "Buyer." These Terms and Conditions, any price list or schedule, quotation, acknowledgment or invoice from Seller relevant to the sale of the Goods and all documents incorporated by specific reference herein or therein, constitute the complete and exclusive statement of the terms of the agreement governing the sale of Goods by Seller to Buyer. Buyer's acceptance of the Goods will manifest Buyer's assent to these Terms and Conditions. Seller reserves the right in its sole discretion to refuse orders.

**1. PRICES:** Unless otherwise specified in writing by Seller, the price quoted or specified by Seller for the Goods shall remain in effect for thirty (30) days after the date of Seller's quotation or acknowledgment of Buyer's order for the Goods, whichever occurs first, provided an unconditional authorization from Buyer for the shipment of the Goods is received and accepted by Seller within such time period. If such authorization is not received by Seller within such thirty (30) day period, Seller shall have the right to change the price for the Goods to Seller's price for the Goods at the time of shipment. All prices are exclusive of taxes, transportation and insurance, which are to be borne by Buyer.

**2. TAXES:** Any current or future tax or governmental charge (or increase in same) affecting Seller's costs of production, sale, or delivery or shipment, or which Seller is otherwise required to pay or collect in connection with the sale, purchase, delivery, storage, processing, use or consumption of Goods, shall be for Buyer's account and shall be added to the price.

**3. TERMS OF PAYMENT:** Unless otherwise specified by Seller, terms are net thirty (30) days from date of Seller's invoice in U.S. currency. Seller shall have the right, among other remedies, either to terminate this agreement or to suspend further performance under this and/or other agreements with Buyer in the event Buyer fails to make any payment when due, which other agreements Buyer and Seller hereby amend accordingly. Buyer shall be liable for all expenses, including attorneys' fees, relating to the collection of past due amounts. If any payment owed to Seller is not paid when due, it shall bear interest, at a rate to be determined by Seller, which shall not exceed the maximum rate permitted by law, from the date on which it is due until it is paid. Should Buyer's financial responsibility become unsatisfactory to Seller, cash payments or security satisfactory to Seller may be required by Seller for future deliveries and for the Goods theretofore delivered. If such cash payment or security is not provided, in addition to Seller's other rights and remedies, Seller may discontinue deliveries.

**4. SHIPMENT AND DELIVERY:** While Seller will use all reasonable commercial efforts to maintain the delivery date(s) acknowledged or quoted by Seller, all shipping dates are approximate and not guaranteed. Seller reserves the right to make partial shipments. Seller, at its option, shall not be bound to tender delivery of any Goods for which Buyer has not provided shipping instructions and other required information. If the shipment of the Goods is postponed or delayed by Buyer for any reason, Buyer agrees to reimburse Seller for any and all storage costs and other additional expenses resulting therefrom. Risk of loss and legal title to the Goods shall transfer to Buyer for sales in which the end destination of the Goods is outside of the United States immediately after the Goods have passed beyond the territorial limits of the United States. For all other shipments, risk of loss for damage and responsibility shall pass from Seller to Buyer upon delivery to and receipt by carrier at Seller's shipping point. All shipments are F.O.B. Seller's shipping point. Any claims for shortages or damages suffered in transit are the responsibility of Buyer and shall be submitted by Buyer directly to the carrier.

Shortages or damages must be identified and signed for at the time of delivery. Buyer shall inspect Goods delivered to it by Seller immediately upon receipt, and, any course of dealing to the contrary notwithstanding, failure of Buyer to give Seller notice of any claim within 30 days after receipt of such Goods shall be an unqualified acceptance of such Goods.

**5. LIMITED WARRANTY:** Subject to the limitations of Section 6, Seller warrants that the Goods manufactured by Seller will be free from defects in material and workmanship under normal use and regular service and maintenance for a period of one year from the date of shipment of the Goods by Seller, unless otherwise specified by Seller in writing. **THIS IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY SELLER WITH RESPECT TO THE GOODS AND IS IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MER-**

**CHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO SELLER IN SPECIFICATIONS, DRAWINGS OR OTHERWISE, AND WHETHER OR NOT SELLER'S PRODUCTS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED BY SELLER FOR BUYER'S USE OR PURPOSE.**

This warranty does not extend to any losses or damages due to misuse, accident, abuse, neglect, normal wear and tear, negligence (other than Seller's), unauthorized modification or alteration, use beyond rated capacity, unsuitable power sources or environmental conditions, improper installation, repair, handling, maintenance or application or any other cause not the fault of Seller. To the extent that Buyer or its agents has supplied specifications, information, representation of operating conditions or other data to Seller in the selection or design of the Goods and the preparation of Seller's quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.

If within thirty (30) days after Buyer's discovery of any warranty defects within the warranty period, Buyer notifies Seller thereof in writing, Seller shall, at its option and as Buyer's exclusive remedy, repair, correct or replace F.O.B. point of manufacture, or refund the purchase price for, that portion of the Goods found by Seller to be defective. Failure by Buyer to give such written notice within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. All costs of dismantling, reinstallation and freight and the time and expense of Seller's personnel and representatives for site travel and diagnosis under this warranty shall be borne by Buyer unless accepted in writing by Seller. Goods repaired or replaced during the warranty period shall be covered by the foregoing warranty for the remainder of the original warranty period or ninety (90) days from the date of shipment, whichever is longer.

Buyer assumes all other responsibility for any loss, damage, or injury to persons or property arising out of, connected with, or resulting from the use of Goods, either alone or in combination with other products/components.

Section 5 applies to any entity or person who may buy, acquire or use the Goods, including any entity or person who obtains the Goods from Buyer, and shall be bound by the limitations therein, including Section 6. Buyer agrees to provide such subsequent transferee conspicuous, written notice of the provisions of Sections 5 and 6.

**6. LIMITATION OF REMEDY AND LIABILITY: THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY WARRANTY HEREUNDER OTHER THAN THE WARRANTY PROVIDED UNDER SECTION 7 SHALL BE LIMITED TO REPAIR, CORRECTION OR REPLACEMENT, OR REFUND OF THE PURCHASE PRICE UNDER SECTION 5.**

**SELLER SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE AND THE REMEDIES SET FORTH IN THIS AGREEMENT ARE EXCLUSIVE. IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL SELLER'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXCEED THE PRICE PAID BY BUYER FOR THE SPECIFIC GOODS PROVIDED BY SELLER GIVING RISE TO THE CLAIM OR CAUSE OF ACTION. BUYER AGREES THAT IN NO EVENT SHALL SELLER'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXTEND TO INCLUDE INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES.** The term "consequential damages" shall include, but not be limited to, loss of anticipated profits, business interruption, loss of use, revenue, reputation and data, costs incurred, including without limitation, for capital, fuel, power and loss or damage to property or equipment.

Buyer expressly acknowledges and agrees that Seller has set its prices and entered into this agreement in reliance upon the limitations of liability and other terms and conditions specified herein, which allocates the risk between Seller and Buyer and form a basis of this bargain between the parties.

It is expressly understood that any technical advice furnished by Seller with respect to the use of the Goods is given without charge, and Seller assumes no obligation or liability for the advice given, or results obtained, all such advice being given and accepted at Buyer's risk.

**7. PATENTS AND COPYRIGHTS:** Subject to the limitations of the second



paragraph of Section 6, Seller warrants that the Goods sold, except as are made specifically for Buyer according to Buyer's specifications, do not infringe any valid U.S. patent or copyright in existence as of the date of shipment. This warranty is given upon the condition that Buyer promptly notify Seller of any claim or suit involving Buyer in which such infringement is alleged and cooperate fully with Seller and permit Seller to control completely the defense, settlement or compromise of any such allegation of infringement. Seller's warranty as to use patents only applies to infringement arising solely out of the inherent operation according to Seller's specifications and instructions (i) of such Goods, or (ii) of any combination of Goods acquired from Seller in a system designed by Seller. In the event such Goods are held to infringe such a U.S. patent or copyright in such suit, and the use of such Goods is enjoined, or in the case of a compromise or settlement by Seller, Seller shall have the right, at its option and expense, to procure for Buyer the right to continue using such Goods, or replace them with non-infringing Goods, or modify same to become non-infringing, or grant Buyer a credit for the depreciated value of such Goods and accept return of them. In the event of the foregoing, Seller may also, at its option, cancel the agreement as to future deliveries of such Goods, without liability.

**8. EXCUSE OF PERFORMANCE:** Seller shall not be liable for delays in performance or for non-performance due to acts of God; acts of Buyer; war; fire; flood; weather; sabotage; strikes or labor disputes; civil disturbances or riots; governmental requests, restrictions, allocations, laws, regulations, orders or actions; unavailability of or delays in transportation; default of suppliers; or unforeseen circumstances or any events or causes beyond Seller's reasonable control. Deliveries or other performance may be suspended for an appropriate period of time or canceled by Seller upon notice to Buyer in the event of any of the foregoing, but the balance of the agreement shall otherwise remain unaffected as a result of the foregoing.

If Seller determines that its ability to supply the total demand for the Goods, or to obtain material used directly or indirectly in the manufacture of the Goods, is hindered, limited or made impracticable due to causes set forth in the preceding paragraph, Seller may allocate its available supply of the Goods or such material without obligation to acquire other supplies of any such Goods or material among itself and its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom.

**9. CANCELLATION:** Unless otherwise agreed in writing by Seller, orders under this agreement may not be canceled by Buyer for any reason.

**10. CHANGES:** Buyer may request changes or additions to the Goods consistent with Seller's specifications and criteria. In the event such changes or additions are accepted by Seller, Seller may revise the price and dates of delivery.

Seller reserves the right to change designs and specifications for the Goods without prior notice to Buyer, except with respect to Goods being made-to-order for Buyer. Seller shall have no obligation to install or make such change in any Goods manufactured prior to the date of such change.

**11. NUCLEAR/MEDICAL.** GOODS AND SERVICES SOLD HEREUNDER ARE NOT FOR USE IN CONNECTION WITH ANY NUCLEAR, MEDICAL, LIFESUPPORT AND RELATED APPLICATIONS. Buyer accepts goods and services with the foregoing understanding, agrees to communicate the same in writing to any subsequent purchasers or users and to defend, indemnify and hold harmless Seller from any claims, losses, suits, judgments and damages, including incidental and consequential damages, arising from such use, whether the cause of action be based in tort, contract or otherwise, including allegations that the Seller's liability is based on negligence or strict liability.

**12. BUYER'S COMPLIANCE WITH LAWS:** In connection with the transactions contemplated by this agreement, Buyer is familiar with and shall fully comply with all applicable laws, regulations, rules and other requirements of the United States and of any applicable state, foreign and local governmental body in connection with the purchase, receipt, use, transfer and disposal of the Goods.

**13. EXPORT/IMPORT:** Buyer agrees that all applicable import and export control laws, regulations, orders and requirements, including without limitation those of the United States and the European Union, and the jurisdictions in which the Seller and Buyer are established or from which Goods and Services may be supplied, will apply to their receipt and use. In no event shall Buyer use, transfer, release, import, export, Goods in violation of such applicable laws, regulations, orders or requirements.

**14. TOOLING:** Tool, die, and pattern charges, if any, are in addition to the price of the Goods and are due and payable upon completion of the tool-

ing. All such tools, dies and patterns shall be and remain the property of Seller. Charges for tools, dies, and patterns do not convey to Buyer, title, ownership interest in, or rights to possession or removal, or prevent their use by Seller for other purchasers, except as otherwise expressly provided by Seller and Buyer in writing with reference to this provision.

**15. RETURNED GOODS:** Except as otherwise provided with respect to warranty defects in Section 5, advance written permission to return Goods must be obtained from Seller's customer service department. Such Goods must be current, unused, catalogued Goods and must be shipped, transportation prepaid, to the Seller's specified return location. Returns made without proper written permission will not be accepted by Seller. Credit or exchange for such returned Goods will be at the billing price or current price, whichever is lower, from which will be deducted an inspection, restocking and repacking charge and the cost of any reconditioning. Seller reserves the right to inspect Goods prior to authorizing return.

**16. BUYER SUPPLIED DATA:** To the extent that Seller has been provided by or on behalf of Buyer any specifications, description of operating conditions or other data and information in connection with the selection or design of the Goods, and the actual operating conditions or other circumstances differ from those provided by Buyer and relied upon by Seller, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.

**17. SOFTWARE<sup>1</sup>:** Notwithstanding any other provision herein to the contrary, Seller or applicable third party licensor to Seller shall retain all rights of ownership and title in its respective Software, including without limitation all rights of ownership and title in its respective copies of such Software. Except as otherwise provided herein, Buyer is hereby granted a nonexclusive, nontransferable royalty free license to use the Software incorporated into the Goods solely for purposes of Buyer properly utilizing such Goods purchased from Seller. All other Software shall be furnished to, and used by, Buyer only after execution of Seller's (or the licensor's) applicable standard license agreement, the terms of which are incorporated herein by reference.

**18. DRAWINGS:** Seller's prints and drawings (including without limitation, the underlying technology) furnished by Seller to Buyer in connection with this agreement are the property of Seller and Seller retains all rights, including without limitation, exclusive rights of use, licensing and sale. Possession of such prints or drawings does not convey to Buyer any rights or license, and Buyer shall return all copies (in whatever medium) of such prints or drawings to Seller immediately upon request therefore.

**18. ASSIGNMENT:** Buyer shall not assign its rights or delegate its duties hereunder or any interest herein without the prior written consent of Seller, and any such assignment, without such consent, shall be void.

**19. GENERAL PROVISIONS:** These terms and conditions supersede all other communications, negotiations and prior oral or written statements regarding the subject matter of these terms and conditions. No change, modification, rescission, discharge, abandonment, or waiver of these terms and conditions shall be binding upon the Seller unless made in writing and signed on its behalf by a duly authorized representative of Seller. No conditions, usage of trade, course of dealing or performance, understanding or agreement purporting to modify, vary, explain, or supplement these terms and conditions shall be binding unless hereafter made in writing and signed by the party to be bound, and no modification or additional terms shall be applicable to this agreement by Seller's receipt, acknowledgment, or acceptance of purchase orders, shipping instruction forms, or other documentation containing terms at variance with or in addition to those set forth herein. Any such modifications or additional terms are specifically rejected and deemed a material alteration hereof. If this document shall be deemed an acceptance of a prior offer by Buyer, such acceptance is expressly conditional upon Buyer's assent to any additional or different terms set forth herein. No waiver by either party with respect to any breach or default or of any right or remedy, and no course of dealing, shall be deemed to constitute a continuing waiver of any other breach or default or of any other right or remedy, unless such waiver be expressed in writing and signed by the party to be bound. All typographical or clerical errors made by Seller in any quotation, acknowledgment or publication are subject to correction.

The validity, performance, and all other matters relating to the interpretation and effect of this agreement shall be governed by the law of the state of Missouri. Buyer and Seller agree that the proper venue for all actions arising in connection herewith shall be only in Missouri and the parties agree to submit to such jurisdiction. No action, regardless of form, arising out of transactions relating to this contract, may be brought by either party more than two (2) years after the cause of action has accrued. The U.N. Convention on Contracts for the International Sales of Goods shall not apply to this agreement.

<sup>1</sup> Note the definition of "Software" includes "firmware."



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#### About Emerson Network Power Connectivity Solutions

Emerson Network Power Connectivity Solutions, an Emerson business, serves the needs of wireless communications, military, telephony and data networks, CATV security systems, health care, military and industrial facilities with a full spectrum of RF/microwave and fiber optic connectivity products. For more information, visit [www.EmersonConnectivity.com](http://www.EmersonConnectivity.com)

#### About Emerson

Emerson (NYSE: EMR), based in St. Louis, is a global leader in bringing technology and engineering together to provide innovative solutions to customers through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses. For more information, visit [www.Emerson.com](http://www.Emerson.com)



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#### Emerson Network Power

The global leader in enabling business-critical continuity.

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