

Cable Pair Stabilizer (CPS) Model CPS1436

1. OVERVIEW

The CPS1436 (Figure 1) delivers direct current (DC) over one or two DSL copper loops to prevent splice oxidation that can degrade service performance. The device is installed at customer premises, between a residential gateway and the interface to the outside plant.

Document Status

This is the initial release of this technical publication.

Features

- Provides optimum sealing current to DSL loops
- Small, lightweight and easy to install
- No additional network equipment required
- Powered from gateway DC supply
- UL and FCC compliant

2. APPLICATION

The CPS1436 is used on DSL loops that do not carry analog POTS service (dry loops). Figure 2 illustrates a typical application for a single loop. The CPS1436 draws a small amount of power from the residential gateway's DC power supply and delivers sealing current (wetting current) over the DSL copper pair. The service provider provides a return path for current by installing a jumper at a voice input near the serving VRAD or DSLAM. The DC path is terminated by the CPS1436 and DSL signals pass transparently through the device to the gateway.

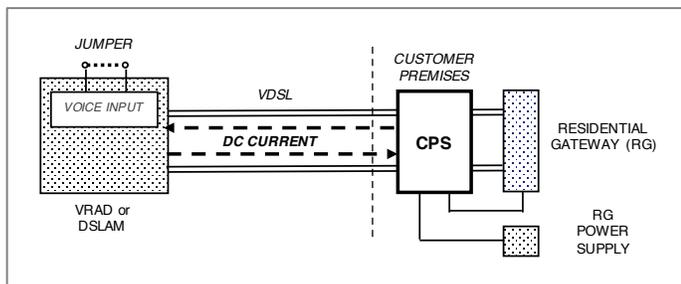


Figure 2. CPS application

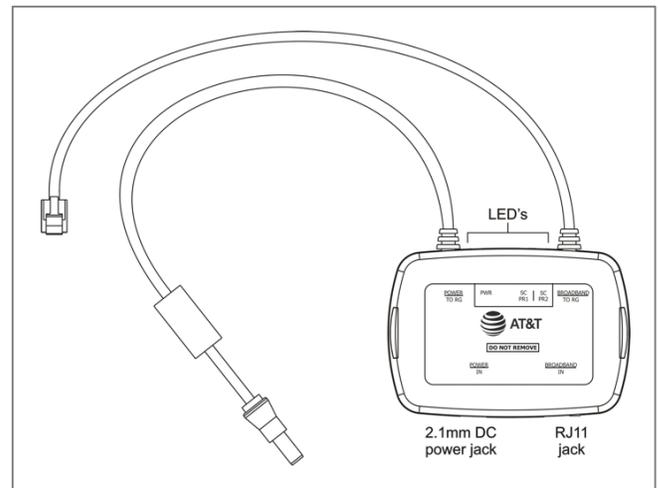


Figure 1. CPS1436

3. DESCRIPTION

The CPS1436 is housed in a compact plastic case with integrated cables for connection to a residential gateway's DSL and DC power inputs. Jacks on the unit connect to cables from the DSL service provider network and the gateway power supply. LEDs on the side of the CPS1436 indicate status of its DC power input and DC current flow over the copper pairs of the DSL network.

The unit draws a small amount of power from the 12VDC gateway power supply to generate approximately 30mA of DC sealing current (wetting current) over one or two copper pairs of the DSL network. 12VDC power and DSL signals are passed to the gateway through the CPS1436. No DC current is delivered over the DSL interface to the gateway.

4. INSTALLATION

NOTE: Refer to AT&T practices for circuit qualification, additional instructions when installing the device with a residential gateway that uses HPNA (Coax) connections, or other details.

Installation consists of connecting the CPS1436 on customer premises, between a residential gateway and the network interface, and connecting a jumper at a voice input near the VRAD or DSLAM for each of the copper pairs to which sealing current is being applied by the CPS1436.

Customer Premises Installation

The following table describes the cables and jacks provided by the CPS1436 for connection to the gateway and DSL network.

LABEL	DESCRIPTION
POWER TO RG	Black cable with 2.1 mm center-pin male connector. Plugs into gateway DC power input jack.
BROADBAND TO RG	Green cable with RJ11 male connector. Plugs into gateway DSL input jack.
POWER IN	2.1mm center-pin female jack. Connects to DC power cable from gateway power supply.
BROADBAND IN	RJ11 female jack. Connects to RJ11 cable from network DSL jack.

Network Jumper Installation

At the VRAD or DSLAM location, identify the voice input that that would be used to place POTS service onto the DSL line. Connect a jumper from TIP to RING. Repeat for the second voice input pair if the CPS1436 is being used on a 4-wire (bonded) DSL service line.

CPS1436 Status Indicators

The following table describes the LED status indicators provided on the CPS1436 (between the two pre-attached cables) to help verify proper operation.

LABEL	STATUS	DESCRIPTION
PWR	ON (GREEN)	CPS1436 is receiving DC power from the gateway power supply.
	OFF	No power source is detected by the CPS1436.
SC PR1	ON (YELLOW)	Sealing current is being delivered by the CPS1436 on pair 1.
	OFF	No sealing current is being delivered by the CPS1436 on pair 1.
SC PR2	ON (YELLOW)	Sealing current is being delivered by the CPS1436 on pair 2.
	OFF	No sealing current is being delivered by the CPS1436 on pair 2.

5. CUSTOMER SERVICE

If technical or customer assistance is required, please contact us at the following address or phone number:

Enginuity Communications
 3545 Stern Avenue
 St. Charles, Illinois 60174
 Toll Free: 1-800-980-3266
 www.enginuitycom.com

6. WARRANTY & REPAIR

Warranty

Enginuity warrants this product for one (1) year from date of purchase. Any attempt to repair or modify the equipment by anyone other than an authorized Enginuity representative will void the warranty.

This limited warranty does not cover any losses or damages resulting from shipment to or from the customer, or from improper installation, abuse, modifications, or unauthorized repair by other than Enginuity personnel.

Repair and Return

Equipment under warranty will be repaired or replaced without cost. Before returning defective equipment, first request a Return Material Authorization (RMA) number from Enginuity. Once an RMA number is obtained, return the unit, freight prepaid, along with a brief description of the problem, to:

Enginuity Communications
 3545 Stern Avenue
 St. Charles, Illinois 60174
 ATTN: Repair & Return Dept.

Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Repair or replacement of faulty equipment beyond the warranty period is available for a nominal charge.

7. SPECIFICATIONS

Input Voltage	12V +/- 1V DC
Current per Loop	Up to 31mA DC
Number of Loops	1 or 2
Spectrum Compatibility	Up to 30MHz
Insertion Loss	0.2dB, nominal
Height	2.5"
Width	3.6"
Depth	0.9"
Weight	4 ounces
Temperature Range	0 to 50 degrees C
Compliance	UL 60950 FCC Part 15 Class B