



ezOutlet5 Auto Reset Algorithm

Tech Note MSNTN008



Proxicast, LLC
312 Sunnyfield Drive
Suite 200
Glenshaw, PA 15116

1-877-77PROXI
1-877-777-7694
1-412-213-2477

Fax:
1-412-492-9386

E-Mail:
support@proxicast.com

Internet:
www.proxicast.com

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This TechNote Applies Only to ezOutlet5 Models:

ezOutlet5

Introduction

The ezOutlet5 from Mega System Technologies, Inc ("MegaTec") is designed to automatically power-cycle an AC powered device when Internet connectivity is lost. Its AC power outlet can also be reset manually or via scheduled actions.

The ezOutlet5's Auto Reset feature uses several system parameters to monitor Internet connectivity and power cycle one or both power outlets based on these settings.

The following describes how the ezOutlet5 determines when a power reset is required.

IMPORTANT NOTES

The Auto Reset function is **DISABLED** by default and must be enabled either via the Function button on the ezOutlet5, or via the ezOutlet5's internal web server, or through the ezDevice smartphone app, or the Cloud4UIS.com web service.

If the ezOutlet5 is connected to both a wired Ethernet LAN and WiFi WLAN (i.e. dual homed), it will send ping tests through both interfaces. If either interface fails to respond or the WiFi signal strength falls below the threshold set (default = 60%), the ezOutlet5 will begin its Auto Reset algorithm.

How quickly will the ezOutlet5 detect Internet loss?

The ezOutlet5 uses the following algorithm to determine when and how often to perform a reset of the AC output outlet when in Auto Reset mode (default = Manual Mode):

STEP 1: After booting up, the ezOutlet5 will do nothing for the **Ping Delay After Power On** time (default = 1 min)

STEP 2: At the **Ping Delay After Power On** time, it checks for Internet service by sending a ping.

- If no response is received, do nothing, wait **Time between pings** (default = 15 sec), then go to step 2
- If a response is received, begin the Internet monitoring function (step 3)

STEP 3: Wait **Time between pings** then send another ping and check for response to the ping

- If response received, go to step 3
- If no response received, increment ping loss counter, wait **Time between pings**, then send another ping and go to step 4

STEP 4: Check for response to the ping

- If response received, clear ping loss counter and go to step 3
- If no response received, increment ping loss counter, wait **Time between pings** then send another ping.

Repeat this until either a response is received or the loss counter reaches 3 (this threshold counter is hard coded in the ezOutlet5).

STEP 5: If the loss counter = 3, then power cycle the assigned outlet, increment reset counter and clear the ping loss counter. Wait the **Ping Delay After Power On** time (default = 1 min) before restarting Internet monitoring in step 2.

STEP 6: If reset counter < (**No of Resets**) then go to step 3, else stop all Internet monitoring and clear the reset counter.

The default is for the ezOutlet5 to perform only 3 power cycles upon the loss of Internet connectivity. If the Internet connection is not restored after the third power cycle, no further power cycles will occur unless you increase the **No of Resets** value (maximum = unlimited).

Note that the ezOutlet5 detects the "loss of Internet connectivity" not the absence of it. The Internet must be connected no later than the **Ping Delay After Power On + (3 * Time between pings)** time mark for the monitoring function to begin. The default is approximately 1.75 minutes: 60 + (3 * 15). Internet outages prior to this time will not be detected – consider this interval when testing the ezOutlet5.

If the Internet goes down after the **Ping Delay After Power On** time, the default settings will require at least 45 seconds (3 * 15 sec) for the ezOutlet5 to decide to reset the outlet power.

The default settings work well for most situations in which a modem or router must be power-cycled. With these settings, the ezOutlet5 will detect the loss of Internet in about 45-50 seconds, power off the outlet, then power on the outlet after the **Power On Delay** (default = 3 sec).

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