

## Virtual outputs in Poseidon2 and Damocles2 units

*Virtual outputs in Poseidon2 and Damocles2 units allows to use outputs from different Poseidon2 and Damocles2 units (Box2Box). De facto we are talking about similar feature, which was based on SNMP traps, only in case of Virtual outputs the communication runs more reliable way via TCP/IP protocol, it is repeated (done each 60s), secured and all functions work this way too, conditions and features same as with physical outputs.*

### Reliable protocol

Existing features of SNMP traps meant transfer via UDP protocol, which is not confirmed, in other words the side which sent a trap, does not know whether it was received by target device. The UDP packets are very fast and short, however there might be losses, which is not suitable for Box2Box use. TCP protocol on the other hand has all packets confirmed, so when data are not received, ze zdrojové zařízení vyzváno k jejich opakovanému okamžitému odeslání.

### Repeated each 60s

When using Box2Box mode via SNMP Traps, commands for switching on and off are always sent only at the moment when a condition for sending an alarm trap is met (start or end of an alarm). When you have an application which allows you to reset the remote device (e.g. due to power outage) with controlled output, this transmission is not suitable, because after restart (power on), the remote device doesn't know that it has to switch the output. In the case of Virtual outputs an instruction is sent each 60s for as long as a condition switching remote output remains valid. The problem is solved.

### Secure communication

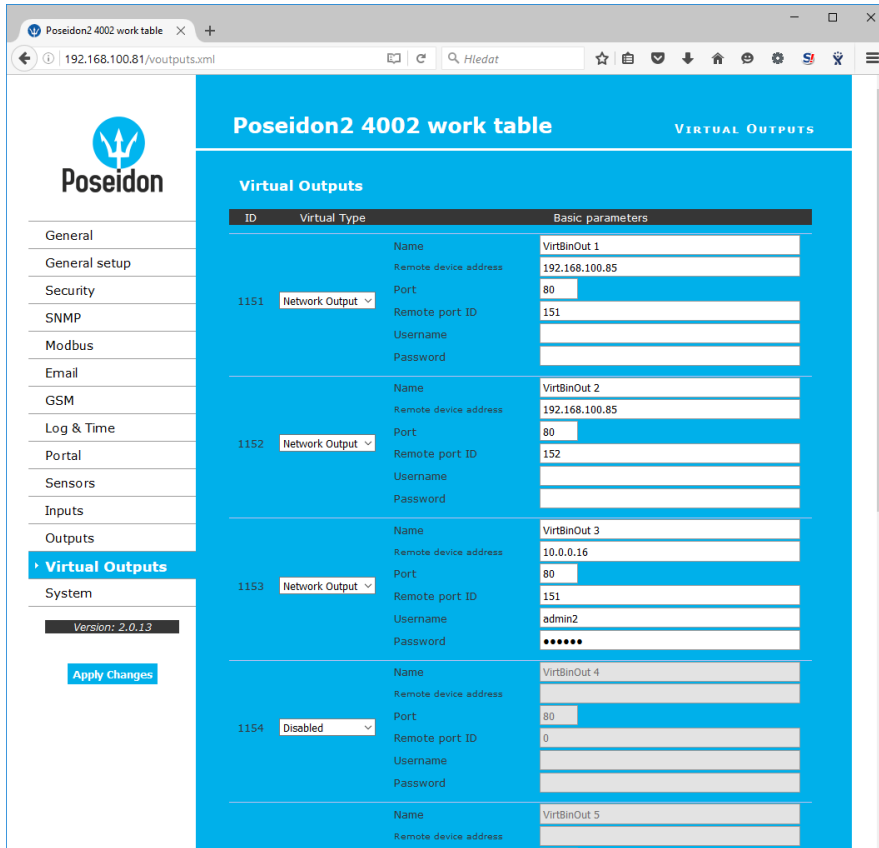
In remote equipment, communication for virtual outputs can be secured by a username and password (level Read only + Outputs or Read + Write). SNMP Traps do not have this feature.

### You can apply the same functions to Virtual Outputs as to physical ones

After adding a virtual output to unit Poseidon2 or Damocles2, this output will be displayed in the same tab with the same parameters as for the physical output. All conditions can be applied and attributes as for the physical one, including the option of creating pulse output.

### How it all works

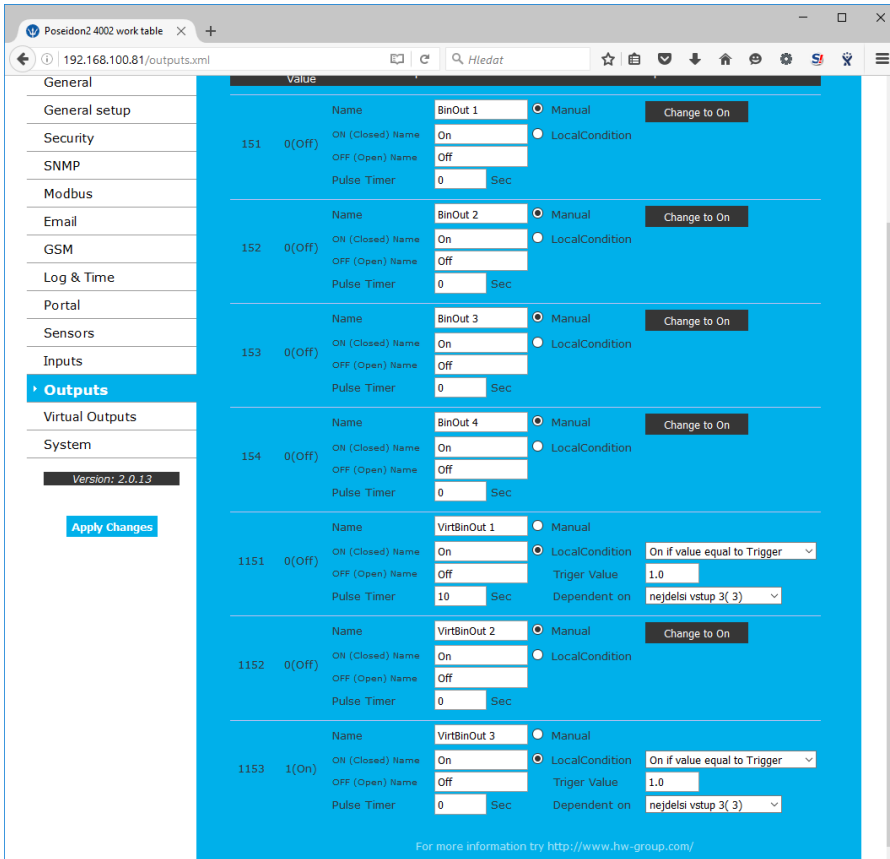
First we define on the Virtual Outputs tab virtual output. Normally there can be up to 8 and they are off in default mode. After enabling, the following can be configured: the name, the IP address of the remote device, ID remote output (can be found in the Outputs tab); if the device is secured by authentication, we can set a username and password (levels Read only + Outputs or Read + Write).



The screenshot shows the web interface for the Poseidon2 4002 work table. The browser address bar shows the URL `192.168.100.81/voutputs.xml`. The page title is "Poseidon2 4002 work table" and the sub-header is "VIRTUAL OUTPUTS". On the left, there is a navigation menu with options: General, General setup, Security, SNMP, Modbus, Email, GSM, Log & Time, Portal, Sensors, Inputs, Outputs, and System. The "Outputs" section is expanded to show "Virtual Outputs". Below this, there is a table with columns "ID", "Virtual Type", and "Basic parameters".

ID	Virtual Type	Basic parameters
1151	Network Output	Name: VirtBinOut 1 Remote device address: 192.168.100.85 Port: 80 Remote port ID: 151 Username: Password: 
1152	Network Output	Name: VirtBinOut 2 Remote device address: 192.168.100.85 Port: 80 Remote port ID: 152 Username: Password: 
1153	Network Output	Name: VirtBinOut 3 Remote device address: 10.0.0.16 Port: 80 Remote port ID: 151 Username: admin2 Password: *****
1154	Disabled	Name: VirtBinOut 4 Remote device address: Port: 80 Remote port ID: 0 Username: Password: 
		Name: VirtBinOut 5 Remote device address: 

After save we can see the output on tab Outputs and we can configure it as we need



Reaction time for switching the remote output is around 1,5-2,5s.