

# RS-Linx Issue: Change IP Address of EtherNet/IP Device

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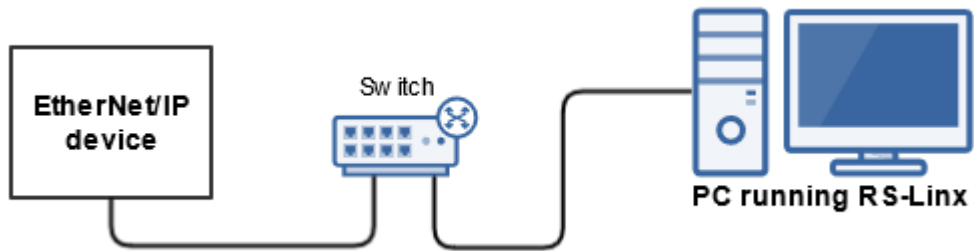
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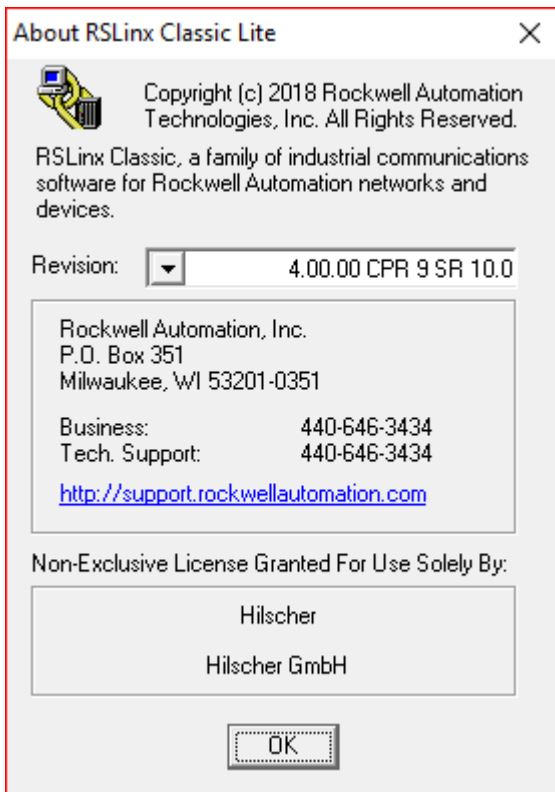
# 1 Issue Summary

An EtherNet/IP device is using an IP address that it received from a DHCP server. Using RS-Linx, this IP address shall be changed to another, now STATIC, IP address. RS-Linx configures attribute 3 of the TCP/IP Interface object to "STATIC" (0) successfully, but does not change the IP address to the new value.

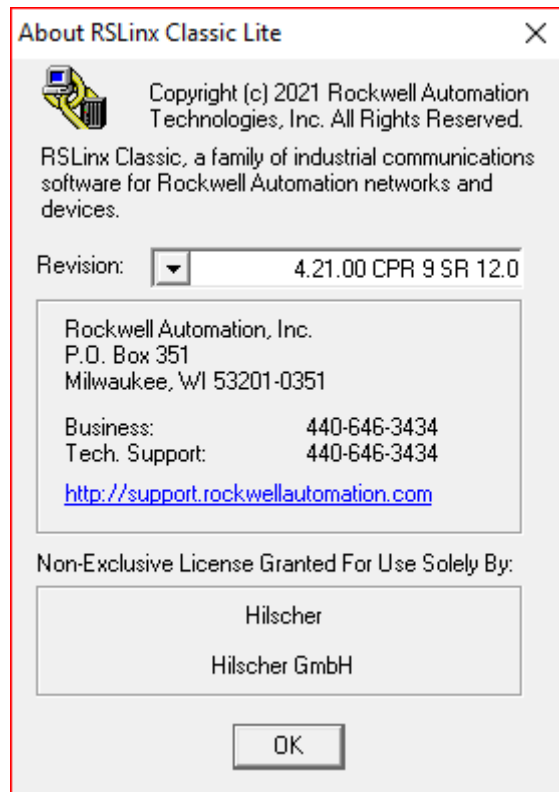
## 2 Test Setup



### 3 Used RS-Linx version



and



Both versions of RS-Linx show the same behavior.

## 4 Used Hilscher device and firmware version

netRapid90 (on Evaluation Board "NRPEB H90-RE") and EtherNet/IP Adapter Firmware V5.3.0.4

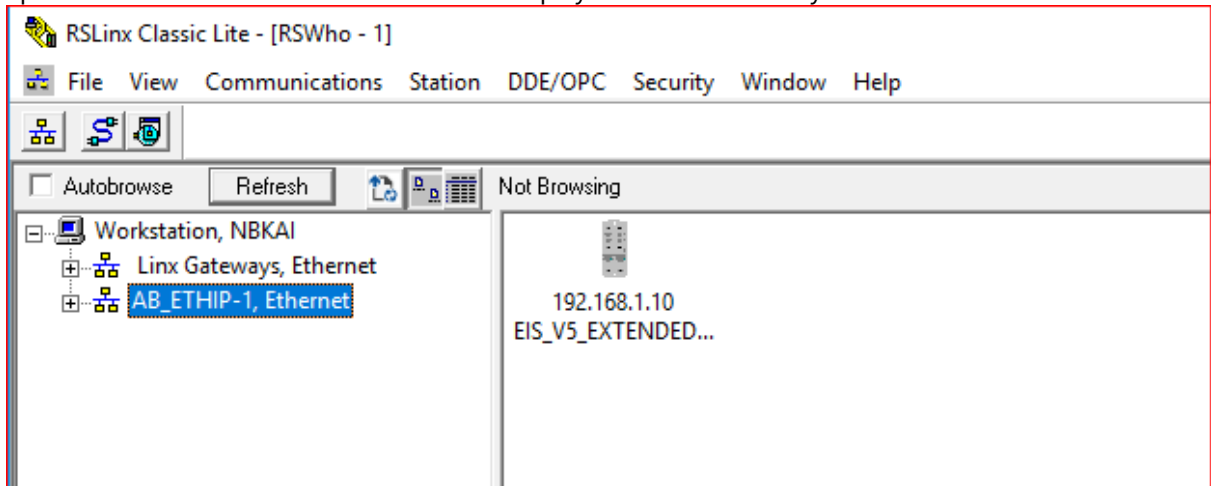
## 5 Initial Situation

Device is powered up and received a valid IP configuration from a DHCP server.  
The device applied the IP configuration successfully and is ready for communication.

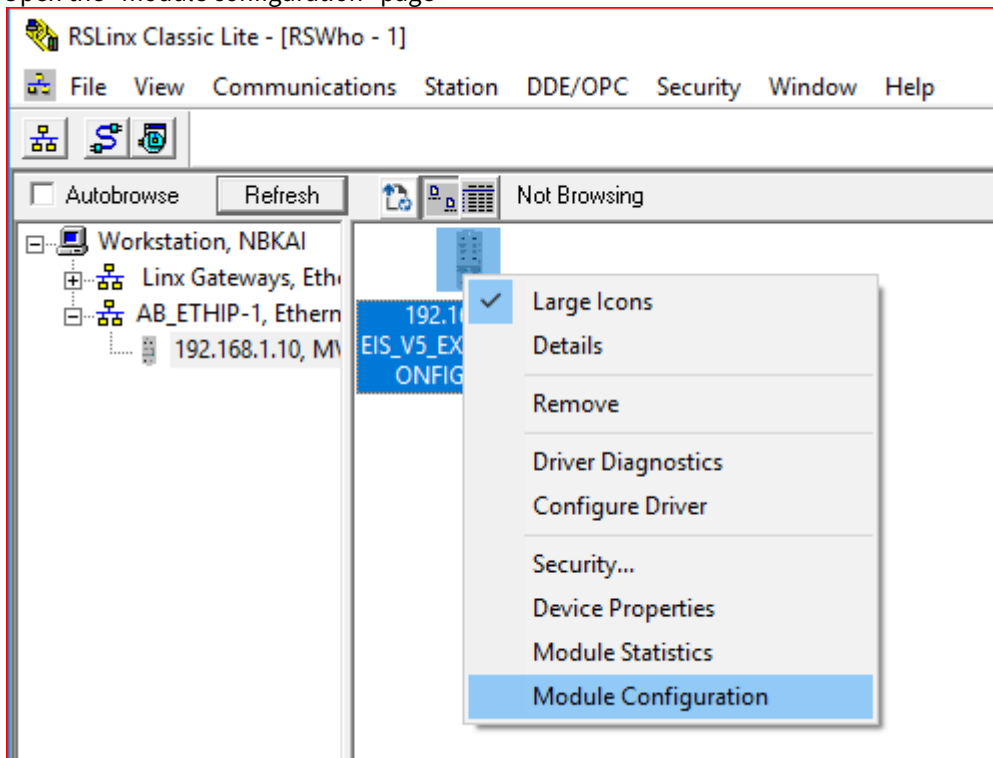
The IP address received from the DHCP server is: 192.168.1.10

## 6 Steps to Reproduce

1. Open the RS-Linx tool and make sure RS-Linx displays the device correctly

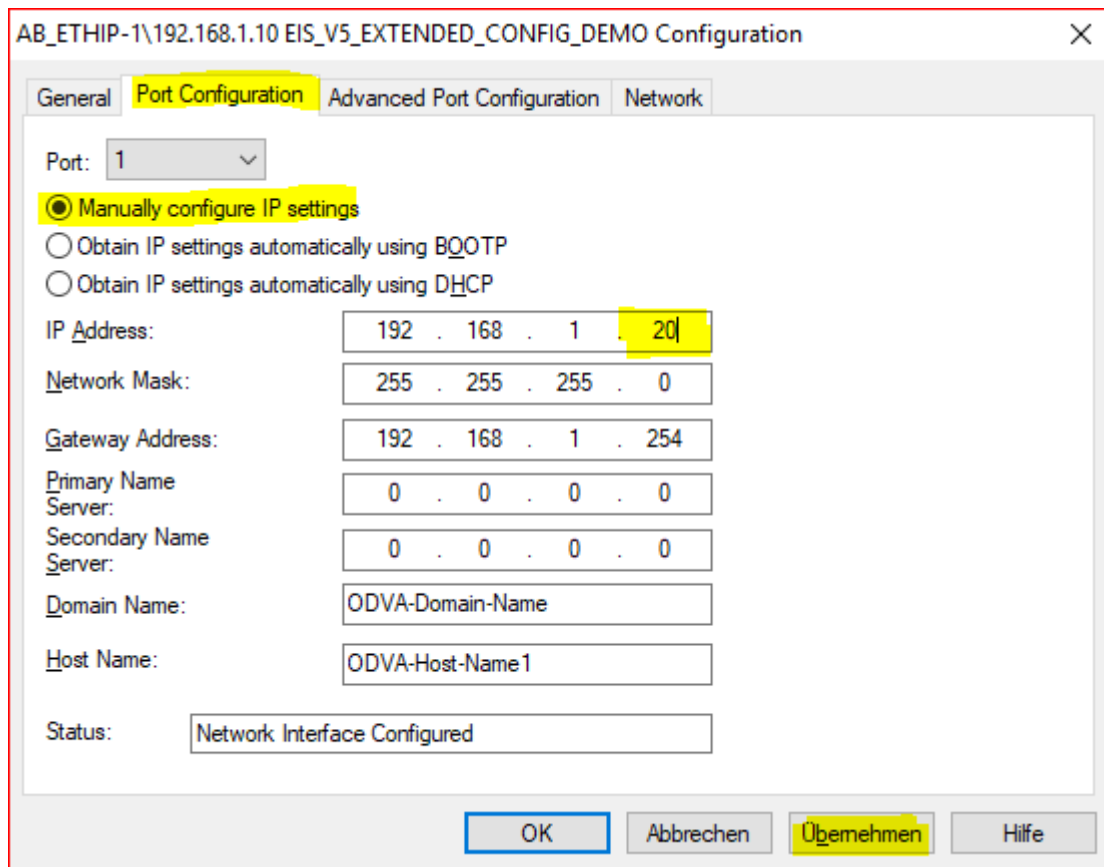


2. Open the "module configuration" page



3. Select the "Port Configuration" tab and do the following:
  - Select "Manually configure IP settings"
  - Change the last octet of the IP address to .20
  - Click "Apply"





## 7 Expected situation after above steps

- The device is successfully set to STATIC (TCP/IP Attribute 3)
- The IP address of the device is set to 192.168.1.20 (TCP/IP Attribute 5)

## 8 Actual situation after above steps

- The device is successfully set to STATIC (TCP/IP Attribute 3)
- The device is still configured to IP address 192.168.1.10.  
RS-Linx does not indicate any error messages

## 9 Wireshark Trace

No.	Time	TCP Stream	Source	Destination	Protocol	Length	Info
1	0.000000	0	169.254.25.214	192.168.1.10	CIP	102	Port - Get Attribute Single
2	0.000858	0	192.168.1.10	169.254.25.214	CIP	98	Path destination unknown: Port - Get Attribute Single
3	0.002855	0	169.254.25.214	192.168.1.10	CIP	100	TCP/IP Interface - Get Attributes All
4	0.003926	0	192.168.1.10	169.254.25.214	CIP	226	Success: TCP/IP Interface - Get Attributes All
5	0.043871	0	169.254.25.214	192.168.1.10	TCP	54	14467 → 44818 [ACK] Seq=95 Ack=217 Win=63104 Len=0
6	8.419050		MS-NLB-PhysServer-02_36...	LLDP_Multicast	LLDP	75	NA/02:02:36:1e:99:00 IN/Port0 120
7	10.732998	0	169.254.25.214	192.168.1.10	CIP	106	TCP/IP Interface - Set Attribute Single
8	10.910390	0	192.168.1.10	169.254.25.214	CIP	98	Success: TCP/IP Interface - Set Attribute Single
9	10.910669	0	192.168.1.10	169.254.25.214	TCP	60	44818 → 14467 [FIN, ACK] Seq=261 Ack=147 Win=2146 Len=0
10	10.910699	0	169.254.25.214	192.168.1.10	TCP	54	14467 → 44818 [ACK] Seq=147 Ack=262 Win=63060 Len=0
11	10.910720	0	169.254.25.214	192.168.1.10	TCP	54	14467 → 44818 [RST, ACK] Seq=147 Ack=262 Win=0 Len=0
12	10.911275	0	192.168.1.10	169.254.25.214	TCP	60	44818 → 14467 [RST, ACK] Seq=262 Ack=147 Win=26635 Len=0
13	10.912477		MS-NLB-PhysServer-02_36...	LLDP_Multicast	LLDP	75	NA/02:02:36:1e:99:00 IN/Port0 120
14	11.947200		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	Who has 192.168.1.10? (ARP Probe)
15	12.147430		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	Who has 192.168.1.10? (ARP Probe)
16	12.347309		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	Who has 192.168.1.10? (ARP Probe)
17	12.547323		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	Who has 192.168.1.10? (ARP Probe)
18	12.748065		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	ARP Announcement for 192.168.1.10
19	12.748067		MS-NLB-PhysServer-02_36...	LLDP_Multicast	LLDP	75	NA/02:02:36:1e:99:00 IN/Port0 120
20	14.747417		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	ARP Announcement for 192.168.1.10
21	20.909552	1	169.254.25.214	192.168.1.10	TCP	66	18543 → 44818 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM=1
22	20.910416		MS-NLB-PhysServer-02_36...	Broadcast	ARP	60	Who has 169.254.25.214? Tell 192.168.1.10
23	20.910463		De11_78:dd:0f	MS-NLB-PhysServ...	ARP	42	169.254.25.214 is at 10:65:30:78:dd:0f
24	20.910784	1	192.168.1.10	169.254.25.214	TCP	60	44818 → 18543 [SYN, ACK] Seq=0 Ack=1 Win=2920 Len=0 MSS=1460
25	20.910836	1	169.254.25.214	192.168.1.10	TCP	54	18543 → 44818 [ACK] Seq=1 Ack=1 Win=64240 Len=0
26	20.931774	1	169.254.25.214	192.168.1.10	ENIP	78	Unknown Command (0x0001) (Req)
27	20.931826	1	169.254.25.214	192.168.1.10	ENIP	78	List Services (Req)
28	20.931840	1	169.254.25.214	192.168.1.10	ENIP	78	List Interfaces (Req)
29	20.932537	1	192.168.1.10	169.254.25.214	TCP	60	44818 → 18543 [ACK] Seq=1 Ack=49 Win=2872 Len=0
30	20.933251	1	192.168.1.10	169.254.25.214	ENIP	78	Unknown Command (0x0001) (Rsp)
31	20.974648	1	169.254.25.214	192.168.1.10	TCP	54	18543 → 44818 [ACK] Seq=73 Ack=25 Win=64216 Len=0
32	20.975524	1	192.168.1.10	169.254.25.214	ENIP	104	List Services (Rsp), Communications
33	21.016140	1	169.254.25.214	192.168.1.10	TCP	54	18543 → 44818 [ACK] Seq=73 Ack=75 Win=64166 Len=0
34	21.016953	1	192.168.1.10	169.254.25.214	ENIP	80	List Interfaces (Rsp)
35	21.017167	1	169.254.25.214	192.168.1.10	ENIP	82	Register Session (Req), Session: 0x00000000
36	21.018049	1	192.168.1.10	169.254.25.214	ENIP	82	Register Session (Rsp), Session: 0x0A030000
37	21.059142	1	169.254.25.214	192.168.1.10	TCP	54	18543 → 44818 [ACK] Seq=101 Ack=129 Win=64112 Len=0
38	40.055050		De11_78:dd:0f	Broadcast	ARP	42	Who has 169.254.169.254? Tell 169.254.25.214

### [RSLinxIssue\\_SettingTCPIPSettingFromDHCPtoSTATIC.pcapng<sup>1</sup>](#)

- **Frame #7:** RS-Linx sets attribute 3 of TCP/IP Interface object to STATIC (value 0)
- **Frame #9 - #20:** The device applies the configuration and is available on IP 192.168.1.10
- **Frame #21 - end:** RS-Linx communicates with the device, but does not send another set attribute single request to attribute 5 in order to change the IP address to "192.168.1.20".

<sup>1</sup> [https://kb.hilscher.com/download/attachments/151621123/RSLinxIssue\\_SettingTCPIPSettingFromDHCPtoSTATIC.pcapng?api=v2&modificationDate=1643362977023&version=1](https://kb.hilscher.com/download/attachments/151621123/RSLinxIssue_SettingTCPIPSettingFromDHCPtoSTATIC.pcapng?api=v2&modificationDate=1643362977023&version=1)