# SERVICE BULLETIN
## Issued: 6/25/2025

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SUBJECT: ACM-4000 / MDI NETWORK SETUP ENHANCEMENTS

To improve system flexibility and enable better integration with customer networks, the ACM-4000 running MDI software version 1.1.11 Final (now available on GitHub - ACM-4000 Firmware 1.1.11 Final) introduces several important updates to its network configuration and Modbus communication capabilities. Please review the following updates and implementation guidance:

## Updated Network Configuration

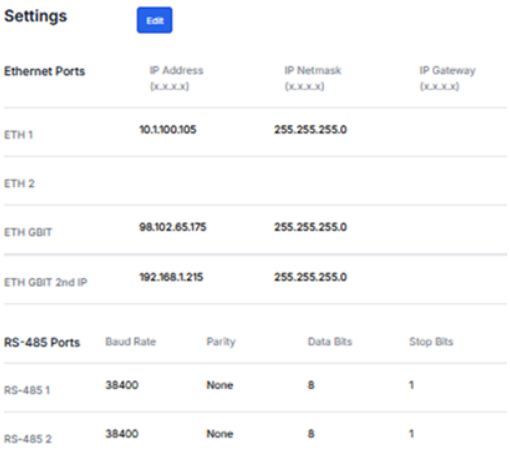
### Altronic Network – GBIT

The GBIT port now supports dual IP addresses for enhanced routing and segregation:

- Primary Static IP Address (ETH GBIT)
  - Default: 98.102.65.175
  - Purpose: Communication with the DE-4000 Control Board
  - Note: Now user-configurable for alternate ACM communication needs
- Secondary IP (ETH GBIT 2nd IP)
  - Default: 192.168.1.175
  - Purpose: Communication with external devices
  - Fully user-configurable

### Customer Network – ETH1

- Connect the customer network directly to the ETH1 port.
- ETH1 must be assigned to a distinct IP subnet from other interfaces to ensure proper network routing and communication reliability.




View of new Network Configuration Settings within the MDI


Physical Layout of ACM-4000

## Modbus TCP Slave Support

The ACM now supports Modbus TCP Slave functionality using the ETH GBIT 2nd IP address. This enables seamless communication with Modbus master devices over Ethernet, providing network isolation and improved flexibility.

### Modbus Configuration:

- Enabled on ETH GBIT 2nd IP
- Slave TCP Server available at any IP Address assigned with Port: 502 (standard Modbus TCP Port)
- Supported Function Code:
    - Function Code 16 – Write Multiple Registers
    - Note: available only when using the DE-4000 as an external device configured within the MDI

## Integration with AWI Devices

To establish communication between the ACM and multiple AWI devices:

### Network Configuration

- Assign each AWI a unique IP address within the same subnet as the ACM.

### Proxy Node ID

- Each AWI is assigned a unique Proxy Node ID, which is managed by the software.
- Proxy Node IDs must be unique per device, even if multiple AWIs share the same Node ID.
- These IDs are used by the ACM to correctly forward Modbus calls to the intended AWI.

### Modbus Master Communication

- The Modbus master sends requests to the ACM ETH GBIT 2nd IP
- Requests must specify the Proxy Node ID of the target AWI
- The ACM handles routing based on the Proxy Node ID

| Component | Requirement |
|---|---|
| ACM Modbus IP | Use the ETH GBIT 2nd IP address |
| AWI Device IPs | Unique IPs within ACM's subnet |
| Proxy Node ID | Unique per AWI |
| Node ID Reuse | Allowed only if AWI IPs are unique |
| Proxy Node Uniqueness | Proxy Node IDs must not be reused across AWIs |

## Special Considerations: DE-4000 Polling via TCP

### General TCP Server Access

- Any IP address assigned to the ACM can be polled on Port 502.
- Recommended: Use ETH1 for customer polling where possible

### Polling Options for the DE-4000

### Option 1: DE-4000 as an External Device

- If you already have a DE-4000 configured AWI, install this file.
    - If not, install a blank AWI representing the DE-4000.
- Add it as an External Device in the MDI.
- Assign its IP address to the DE-4000's secondary Ethernet port.
- Ensure the ETH GBIT 2nd IP of the ACM is on the same subnet as the DE-4000's secondary IP.
- This allows polling of the DE-4000 via Port 502 on the ACM and supports Function Code 16.

### Option 2: Direct Polling of the DE-4000

- Set the DE-4000 IP address in the MDI layout page to its secondary IP.
- In the network page, bridge ETH1 and ETH GBIT, and assign an IP within the DE-4000's subnet.
- This setup enables direct polling of both the DE-4000 and MDI devices via the bridged ports.
- **Note**: Function Code 16 is not supported in this configuration.
- **Benefit**: If the customer was already polling the DE-4000, no changes are required on their polling or PLC side

For questions and/or assistance, please contact our support team at altronic.support@hoerbiger.com.