AK-SM 800 IO Offline Troubleshooting

AX279128111283en-000101

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Online Check

1. From Network Nodes screen go to 'Config Status' tab
2. Each line item indicates a single module/controller
3. Verify all programmed modules are online

IO Communication Issues

Initial Checks

- Power

- Does module exist?

- Comm module rotary switch

- Proper comm module type?

AK-SM 800 Checks

- Proper channel enabled?

Wiring Issues

- Does polarity matter?

- EOL resistors

- Daisy-chaining and 800 termination

- Type of wire used

Problem Correction

- Rescan

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Power

1. 24Vac/dc required for comm module*
2. Solid green indicator at top if power ok
3. Individual Power LED on each module as well
4. Comm module requires connection to 2nd module to power

*Will power at lower voltages (i.e. 12V), but will not bring connected modules online

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Addressing

- **AK2 Module Format Uses 3 Numbers**
- **Alternative Formats**
  - **Calculated- 'Ca-XX' format**
  - **Case Controllers-1 Number**
  - **Legacy IO (AKCess)-2 Numbers**

Does Module Exist?

Up to 9 modules of any combination connected to 1 C.M.

Comm. Module

Analog Inputs
1 2 3 4 5 6 7 8

Analog Inputs
1 2 3 4 5 6 7 8

Analog Inputs
1 2 3 4 5 6 7 8

Module 1

Module 2

Module 3

1 2 3 4 5 6 7 8
Digital Outputs

1 2 3 4 5 6 7 8
Digital Outputs

1 2 3 4 5 6 7 8
Digital Outputs

IO Module #2

Digital Output #7

0 0 1

Set address using rotary switches

Comm. Module #1

Bd - Pt
01 - 2.7

Note: "0" Key toggles decimal (".")

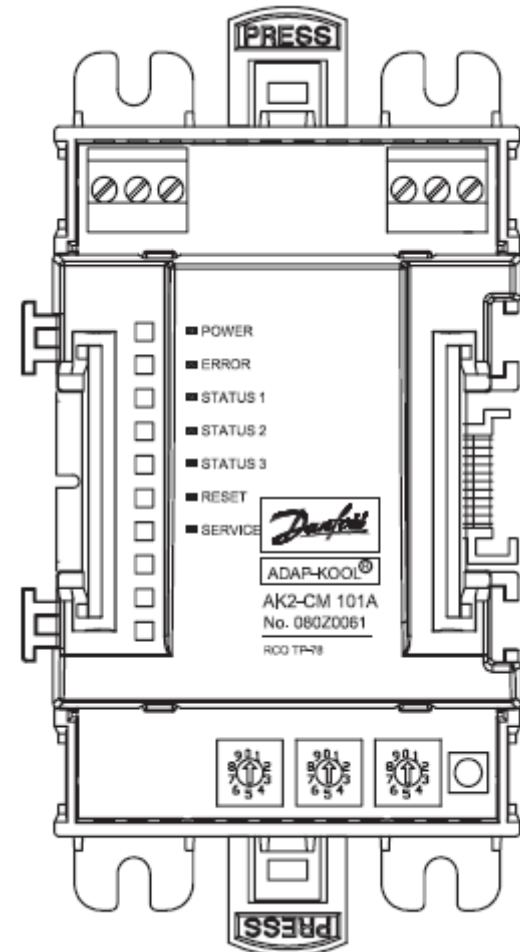ENGINEERING **TOMORROW**
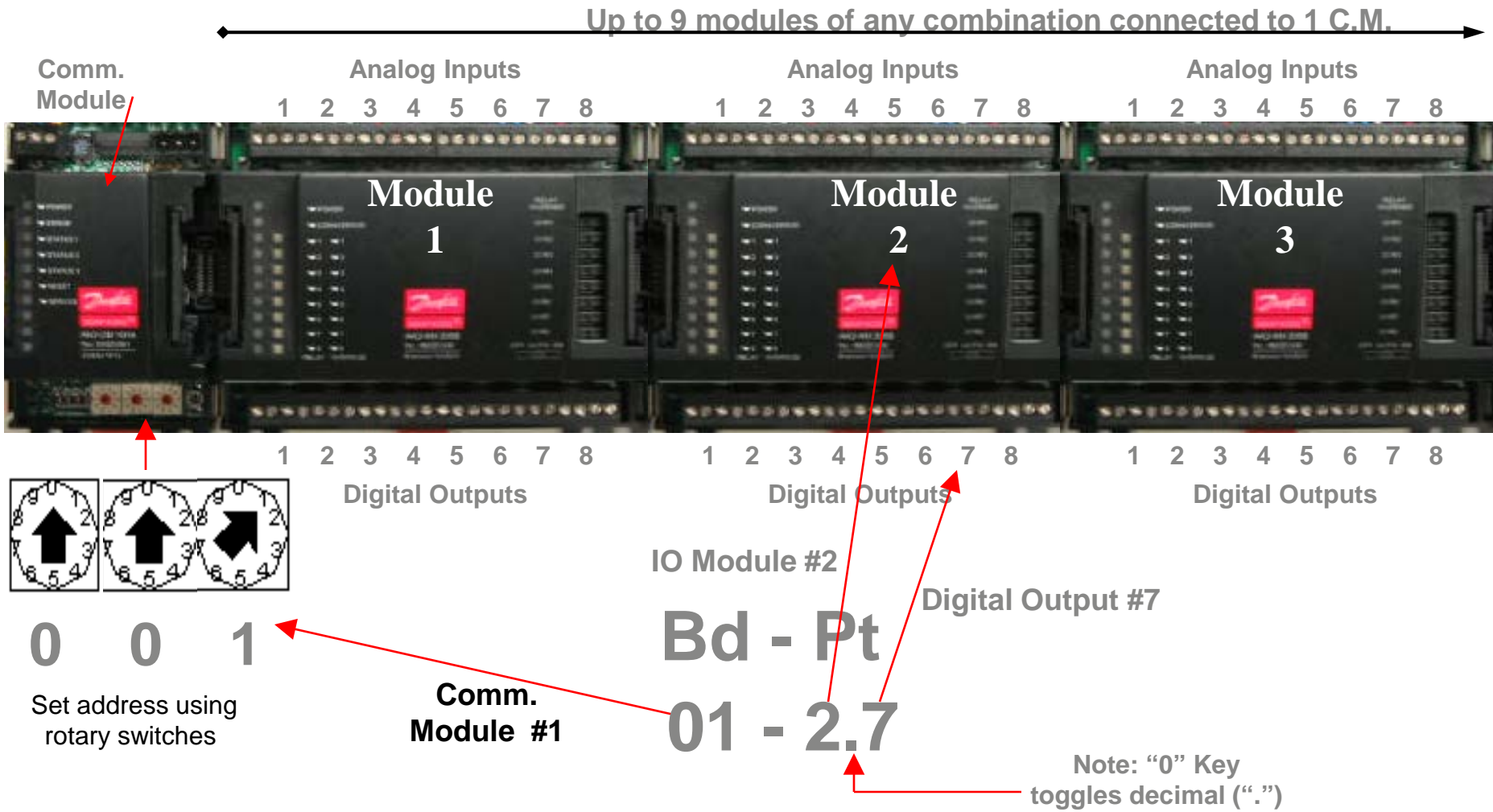
Comm Module Rotary Switch

- **3 Rotary Dials determine address**
- **First dial should always be set to 0**
- **Remaining dials determine address for 800**
- **To adjust dials after system is powered:**
  1. **Adjust dials to desired #'s**
 2. **Rescan system**

Addresses cannot be duplicated

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Comm Module Type

Controller	Native Comm Module Type	Part #
AK-SM 850	AK-CM 101C	080Z0063
AK-SM 880	AK-CM 101C	080Z0063
AK-SM 880R	AK-CM 101A	080Z0061

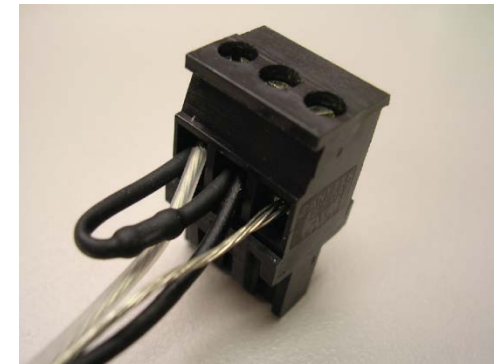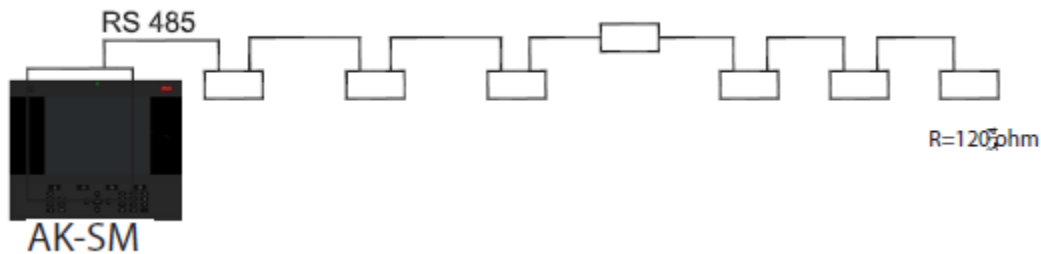ENGINEERING **TOMORROW**

Wiring-Polarity

1. LON wiring is not polarity sensitive (TP78 or RS485)
2. Modbus wiring is polarity sensitive
3. Ensure wire not incorrectly landed on shield terminal

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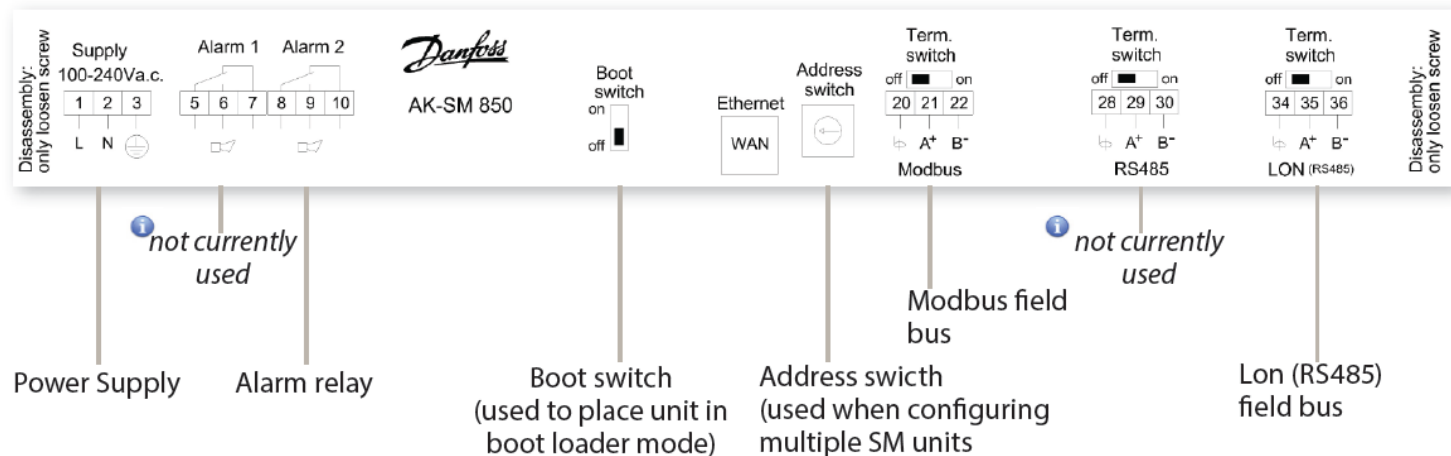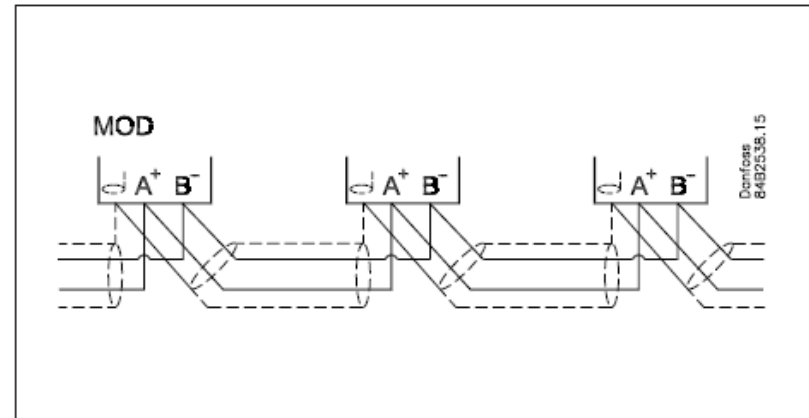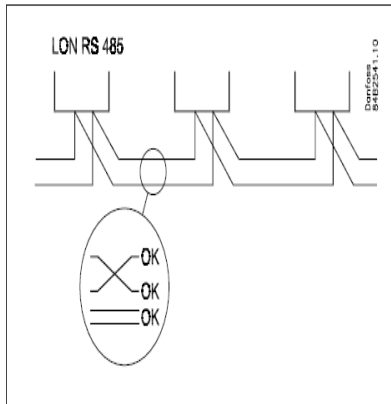
Term Switches and EOL Resistors

**1. AK-SM at end of loop
   Term Switch = On**

RS 485

R=120 ohm

AK-SM

**1. AK-SM in middle of loop
   Term Switch = Off**

RS 485

RS 485

R=120 ohm

R=120 ohm

AK-SM

***Resistors now ship
loose in bag**

Term. switch		Term. switch	
off ■ on		off ■ on	
20 29 30		34 55 30	
A° B°		A° B°
RS485		LON (RS485)	
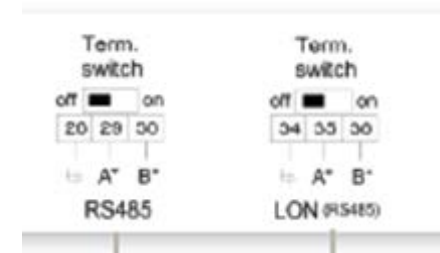
Final Checks/Problem Correction

Final Checks

- If nothing found with other checks, replacing offline module(s) is final step

- If full row of modules is offline, comm module should be changed as well

- Replace modules one at a time in case one module is affecting others

Problem Correction

- Once problem has been identified and corrected, complete rescan