TCNM-ACMK-100 Barcode Memory Module

Instruction Manual

Provides backup and restore capability; Used with TCNM-ACBB1 connection box and ABR barcode reader

The TCNM-ACMK-100 Backup Module is an accessory for the TCNM-ACBB1 connection box when used with an ABR 7000 reader. It provides the following functions:
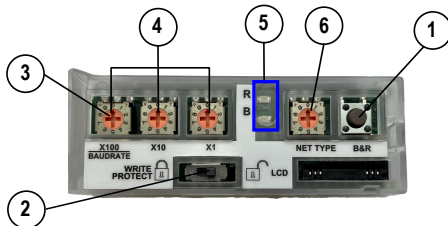
- Backup and Restore: Complete configuration and environmental parameter storage for standalone ABR 7000's or for all of the ABR 7000 devices in an ID-NET network, with only one module. Includes write protection.
- Network Address Selection: Hardware Address selection for ID-NET Slave devices (overrides software configuration).

Models

Model	Description	Connection
TCNM-ACMK-100	Barcode Memory Module	Snap-in connection to TCNM-ACBB1 internal board

Features

Figure 1. General View

1. Backup/Restore button
2. Write Protection Lock
3. ID-NET Baudrate Switch
4. Network Address Switches
5. Backup/Restore Indicator LEDs
6. Network Type Switch

Specifications

Power
10 V DC to 30 V DC

Certifications
CE

Operating Conditions
Operating Temperature: –35 °C to +50 °C (–31 °F to +122 °F)
Storage Temperature: –35 °C to +70 °C (–31 °F to +158 °F)
90% maximum relative humidity (non-condensing)
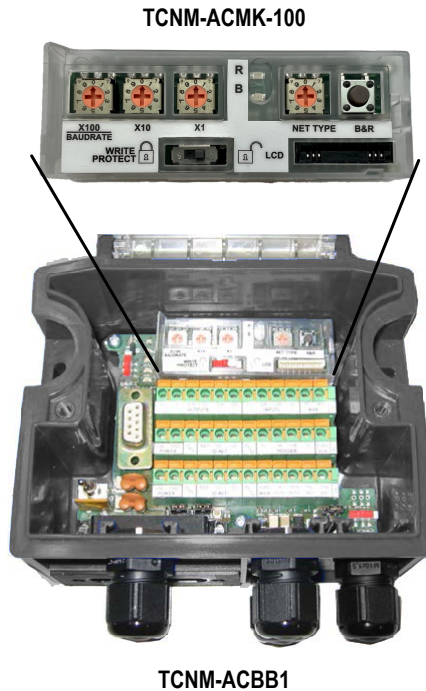
Installation

⚠️ **CAUTION:**
- Electrical shock hazard
- Power must be off during this operation
- Remove power from this device and the device it is being installed on

The TCNM-ACMK-100 can easily be installed into the TCNM-ACBB1 connection box

1. Align the TCNM-ACMK-100 over the corresponding connector on the TCNM-ACBB1.
2. Push down on the TCNM-ACMK-100 until it is fully seated.

Figure 2. Mounting the TCNM-ACMK-100

TCNM-ACMK-100

TCNM-ACBB1

> **Note:** When closed, the plastic support inside the cover holds the module in place.

Backup and Restore

TCNM-ACMK-100 provides complete backup and restore functions (Configuration and Environmental parameters) and cannot be interrupted once started (LED quickly blinking).

The backup and restore functions are valid for any application layout type (point-to-point, network, etc.) using TCNM-ACBB1 connection boxes. They can be performed by:

- The Barcode Manager Device menu: **Device** > **Backup/Restore** >
    - **Backup to external storage device**
    - **Restore from external storage device**
- The TCNM-ACMK-100 button, if the ABR 7000 family Smart Teach Configuration Status parameter is enabled

If it ever becomes necessary to replace the ABR 7000 device it can be quickly configured through the restore procedure.

For ID-NET networks where only the Master has a TCNM-ACMK-100 installed, the backup module of the ID-NET Master saves the configuration of all the reading devices in the network, Master and all individual Slaves. The Slaves must be configured with the same network baudrate as the Master before performing the Restore procedure.

For single reading device stations or Slaves, the backup module saves the configuration only of the specific connected reading device.

These functions are cyclical every 3 seconds: Backup > Restore > No Action

Perform a Backup

1. Make sure the Write Protection switch is unlocked.
2. Press and hold the Backup & Restore button for approximately 3 seconds.
   The green Backup LED (B) lights up.
3. Release the button to select Backup and within 1 second press and release it again to activate the procedure.
   The green Backup LED (B) blinks quickly indicating the backup procedure is active. At the end of the procedure both B and R LEDs turn on for about 2 seconds. When the LEDs turn off the procedure is complete.
4. Set the Write Protection switch to locked.

Perform a Restore

1. Press and hold the Backup & Restore button for approximately 6 seconds.
   The yellow Restore LED (R) lights up.
2. Release the button to select Restore and within 1 second press and release it again to activate the procedure.
   The yellow Restore LED (R) blinks quickly indicating the restore procedure is active. At the end of the procedure both B and R LEDs turn on for about 2 seconds. When the LEDs turn off the procedure is complete.

Exit without Performing a Backup or Restore

To exit without performing Backup or Restore procedures do one of the following:

- Release the button while both LEDs are off (No Action)
- After releasing the button the first time, do not re-press the button to activate the procedure. Instead, wait about 3 seconds (timeout during which the relative LED blinks slowly).

Network Type Selection

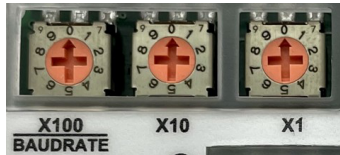The network type depends on the application layout.

Net Type Switch

> 0 = None (not an ID-NET Slave)
> 1 = *reserved*
> 2 = *reserved*
> 3 = *reserved*
> 4 = *reserved*
> 5 = *reserved*
> 6 = *reserved*
> 7 = *reserved*
> 8 = ID-NET Slave Synchronized
> 9 = ID-NET Slave Multidata

For all TCNM-ACBB1 connection box when used with an ABR 7000 reader, the Net Type selector switch allows setting the ID-NET network:

- ID-NET Masters, and all other non-ID-NET applications must be set to None (0).
- If TCNM-ACMK-100 are used for ID-NET Slaves, this switch must be set to Slave Synchronized (8) or Slave Multidata (9) depending on the ID-NET network Topology Role (same as Master).

Network Address Selection

Figure 3. Address Selection Switches

TCNM-ACMK-100 provides hardware network address selection for rapid installation of ID-NET networks. Anytime it is important to maintain specific slave addresses at specific reader locations it is recommended for each slave node to have its own TCNM-ACMK-100 installed. These switch settings are read at each power-up or reset, and override software configuration settings except where specified otherwise.

The valid selection range for the ID-NET Slave addresses is from 01 to 31. Address selections outside of this range are not accepted by the ID-NET network. The ×100 switch refers to the ID-NET baudrate.

Select the Baudrate

The ABR7000 serial port baudrates cannot be set through the TCNM-ACMK-100 switches.

When the TCNM-ACMK-100 is used for ID-NET network Slaves, the ID-NET baudrate is selected through the baudrate switch and must match the Master ID-NET baudrate. The settings are:

ID-NET Baudrate Switch		
	0 = 19200 Baud	5 = 500 kBaud
	1 = 38400 Baud	6 = 1 MBaud
	2 = 57600 Baud	7 = Reserved
	3 = 125 kBaud	8 = Reserved
	4 = 250 kBaud	9 = Reserved

Enable TCNM-ACMK-100 Detection

This reader configuration parameter is enabled by default, so that at startup, the reader sends a message to recognize the presence of, and communicate with, the Backup Module.

If using the Backup Module, this parameter must be enabled. The parameter is found at **Device Settings** > **Maintenance Settings**.

Write Protection Lock

Figure 4. Write Protection

A write protection switch is provided to protect configuration data from being inadvertently overwritten. When this switch is in the lock position, the Backup function is not available (data cannot be written to the backup memory) and a diagnostic warning message can be sent. The Restore function is available.

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