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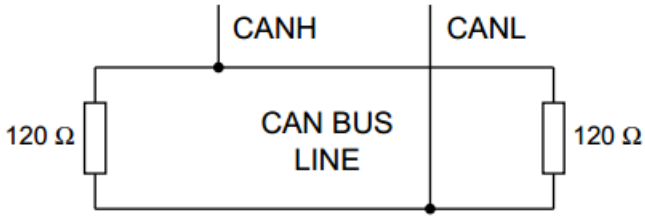
1. How to connect the wires:

Power Supply Connector		
Manufacturer	TE Connectivity / Deutsch	Amphenol
Connector p/n	DT04-4P	AT04-4P
Mating Connector		
Connector p/n	DT06-4S	AT06-4S
Wedgelock p/n	W4S	AW4S
Terminals p/n	0462-201-16141	AT62-201-16141

PIN	COLOUR	FUNCTION
1	Blue	CAN L
2	White	CAN H
3	Black	Negative battery
4	Red	Vbatt. (12-24V)

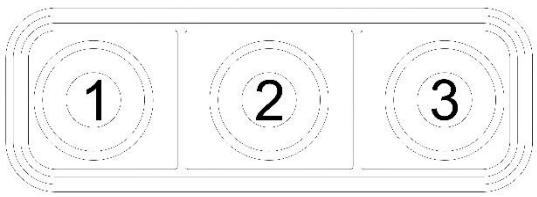


Each end of the CAN bus is terminated with 120Ω resistors in compliance with the standard to minimize signal reflections on the bus. You may need to place a 120Ω resistor between CAN-L and CAN-H.

Warning: to avoid breakage do not tighten the backshell nuts with a torque exceeding 1.8 Nm (16 lbf-in)!

2. Reference

PKP1300SI



3. Message header description

The 29-bit CAN identifier used in J1939 is structured in the following way.

Priority	Reserved	Data Page	PDU Format	PDU Specific	Source Address
3 bits	1 bit	1 bit	8 bits	8 bits	8 bits

The proprietary format used by PKP keypads is defined as follows:
Priority = **6**.
Reserved = **0**.
Data page = **0**.
PDU Format = EFh (the message is addressable).
PDU Specific = Destination Address.
Parameter Group Number:
61184 (EF00h) [PROPRIETARY A] used for configuration messages and LED command a (see page 5).

42752 (A700h) [AUXILIARY I/O #2]
42496 (A600h) [AUXILIARY I/O #3]
} Specifically used for LED command b (see page 6-7).

An example of CAN identifier of messages sent to the keypad is 18EF2100h where:
21h is the destination address (keypad)
00h is the source address.

An example of CAN identifier of messages sent by the keypad is 18EFFF21h where:
FFh refers to broadcast messages (no specific destination address)
21h is the source address (keypad).

4. General Data Format

The proprietary protocol has defined a general format for the data fields in the PGN 61184. The format consists of:
1 header field (2 bytes)
1 command byte
5 bytes (the remaining field) are defined specifically for each command.

The data length is 8 bytes, unused bits and bytes are set to all 1's (0xFF).

Byte 0	04h
Byte 1	1Bh
Byte 2	Command
Byte 3-7	Data required for each specific command

5. Default Settings

Setting	Default state or level	How to change
CAN bus baud rate	250 kbit/s	Command 6Fh
Source address	21h	Command 70h
Keypad identifier	21h	Command 70h
Destination address	FFh	Command 6Eh
Heartbeat	Disabled	Command 75h
Periodic key-state message transmission	Disabled	Command 71h
Key-state message period	100ms	Command 77h
Event state transmission	Enabled	Command 72h
Address claim message at boot	Disabled	Command 74h
Default LED indicators brightness level	3Fh	Command 7Ch
Default backlight brightness level	OFF	Command 7Bh
Startup LED show	Complete LED Sequence	Command 34h
Default backlight color	Amber	Command 7Dh
LED acknowledgment	Disabled	Command 73h

6. Key Contact state (01h)

This message is sent by the keypad to indicate the state of the contacts. The default destination address is set to FFh: broadcast message. See chapter 2 for Key number reference.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	01h	Key Contact state
Byte 3	XXh	XX: Key number
Byte 4	YYh	Contact State 00: Key released 01: Key pressed
Byte 5	ZZh	Keypad Identifier (default 21h)
Byte 6,7	FFh	Not used

Examples:

Direction	Identifier	Format	Message	Data
From Keypad	18EFFF21h	Ext	04 1B 01 01 01 21 FF FF	Key 1 pressed
From Keypad	18EFFF21h	Ext	04 1B 01 01 00 21 FF FF	Key 1 released
From Keypad	18EFFF21h	Ext	04 1B 01 02 01 21 FF FF	Key 2 pressed
From Keypad	18EFFF21h	Ext	04 1B 01 02 00 21 FF FF	Key 2 released
From Keypad	18EFFF21h	Ext	04 1B 01 03 01 21 FF FF	Key 3 pressed
From Keypad	18EFFF21h	Ext	04 1B 01 03 00 21 FF FF	Key 3 released

If the Event state transmission is enabled, the Key Contact state message is sent when a key is switched.

If the periodic key-state transmission is enabled (see Command 71h for further details), at each given time interval a Key Contact state message is transmitted for each key of the keypad.

7. LED command:

a. Set single LED state (01h)

The following message sent to the keypad allows to set one single LED indicator with the color and state shown in the table below.

NOTE: in case the LED message is transmitted periodically to the keypad, to ensure correct processing of the LED command the period used must be higher than 50ms; a value equal to 100ms is fairly good for most applications.

See chapter 2 for Key and LED number reference.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	01h	Set single LED state
Byte 3	XXh	XX: PKP Key number
Byte 4	YYh	LED Color 00h: off 01h: red 02h: green 03h: blue 04h: yellow 05h: cyan 06h: magenta 07h: white/light blue 08h: amber/orange 09h: yellow/green
Byte 5	ZZh	LED State 00h: off 01h: on 02h: blink 03h: alternate blink
Byte 6	WWh	LED Secondary Color (only for alt blink) 00h: off 01h: red 02h: green 03h: blue 04h: yellow 05h: cyan 06h: magenta 07h: white/light blue 08h: amber/orange 09h: yellow/green
Byte 7	FFh	Not used

Examples:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 01 02 04 01 00 FF	LED #2 yellow on
To Keypad	18EF2100h	Ext	04 1B 01 01 03 02 00 FF	LED #3 blinks blue
To Keypad	18EF2100h	Ext	04 1B 01 03 01 01 00 FF	LED #3 red on
To Keypad	18EF2100h	Ext	04 1B 01 02 02 01 00 FF	LED #2 green on
To Keypad	18EF2100h	Ext	04 1B 01 01 06 02 00 FF	LED #1 blinks magenta
To Keypad	18EF2100h	Ext	04 1B 01 03 01 03 02 FF	LED #3 blinks green and red in alternate mode

b. Set multiple LED state

This command used as an alternative to the one described in the previous sub-chapter allows to manage more LED indicators at once. See the command 37h to enable it.

The LED state and color can be controlled by using either or both the CAN data frames (shown in the tables 1 and 2 below) depending on the light mode you want to set: the available functions are summarized in the table 3 at page 8.

The message to be sent to the keypad is structured so that each of four bit field within the 64 data bits controls a corresponding key-LED.

NOTE: in case the LED message is transmitted periodically to the keypad, to ensure correct processing of the LED command the period used must be higher than 50ms; a value equal to 100ms is fairly good for most applications.

TABLE 1:

<table>
<tr><td>PGN</td><td colspan="2">A700h</td><td>AUXILIARY I/O #2</td></tr>
<tr><td>Identifier</td><td colspan="2">18A72100h</td><td>CAN FRAME: color 1</td></tr>
<tr><td rowspan="3">Byte 0</td><td colspan="2">YXh</td><td rowspan="5">Value to be assigned to X and Y / LED color
0 0 0 1 b 1h Red
0 0 1 0 b 2h Green
0 0 1 1 b 3h Blue
0 1 0 0 b 4h Yellow
0 1 0 1 b 5h Cyan
0 1 1 0 b 6h Magenta
0 1 1 1 b 7h White/light blue
1 0 0 0 b 8h Amber/orange
1 0 0 1 b 9h Yellow/green
1 0 1 0 b Ah
1 0 1 1 b Bh
1 1 0 0 b Ch Not used
1 1 0 1 b Dh
1 1 1 0 b Eh</td></tr>
<tr><td>Xh</td><td>LED 1</td></tr>
<tr><td>Yh</td><td>LED 2</td></tr>
<tr><td rowspan="3">Byte 1</td><td colspan="2">FXh</td></tr>
<tr><td>Xh</td><td>LED 3</td></tr>
<tr><td>Fh</td><td>Not used</td></tr>
<tr><td>Byte 2,7</td><td>FFh</td><td>Not used</td><td></td></tr>
</table>

TABLE 2:

PGN	A600h		**AUXILIARY I/O #3**
Identifier	18A62100h		**CAN FRAME: color 2**
Byte 0	YXh		**Value to be assigned to X and Y** / **LED color** 0 0 0 1 b 1h Red 0 0 1 0 b 2h Green 0 0 1 1 b 3h Blue 0 1 0 0 b 4h Yellow 0 1 0 1 b 5h Cyan 0 1 1 0 b 6h Magenta 0 1 1 1 b 7h White/light blue 1 0 0 0 b 8h Amber/orange 1 0 0 1 b 9h Yellow/green 1 0 1 0 b Ah 1 0 1 1 b Bh 1 1 0 0 b Ch Not used 1 1 0 1 b Dh 1 1 1 0 b Eh
	Xh	LED 1	
	Yh	LED 2	
Byte 1	FXh		
	Xh	LED 3	
	Fh	Not used	
Byte 2,7	FFh	Not used	

TABLE 3:

CAN frame: color 1	**CAN frame: color 2**	**LED state**
0h	0h	LED OFF
Value from 1h to 9h	0h	LED ON with the chosen color
0h	Value from 1h to 9h	
Value from 1h to 9h	Same value of color 1	LED ALT BLINKS with the chosen color
Same value of color 2	Value from 1h to 9h	
Value from 1h to 9h	Different value from color 1	LED ALT BLINKS between the two different colors
Different value from color 2	Value from 1h to 9h	
Value from 1h to 9h	Fh	LED BLINKS with the chosen color
Fh	Value from 1h to 9h	

Examples:

Direction	**Identifier**	**Format**	**Message**	**Data**
To Keypad	18A72100h	Ext	22 F2 FF FF FF FF FF FF	LED #1,2,3 green ON
To Keypad	18A62100h	Ext	00 F4 FF FF FF FF FF FF	LED #3 yellow ON
To Keypad	18A72100h	Ext	60 F0 FF FF FF FF FF FF	LED #2 alt blinks magenta
To Keypad	18A62100h	Ext	60 F0 FF FF FF FF FF FF	
To Keypad	18A72100h	Ext	08 F0 FF FF FF FF FF FF	LED #1 amber/orange ON

8. Set LED indicators brightness level (02h)

This message sets the value of the LED indicators brightness level. The value can be set from 0 to 3Fh (min-100%) of the LED dimming range.
NOTE: for this command it is possible to enable the night mode. Please refer to the Command 8Dh for further details.
NOTE 2: this setting has temporary effect and at the startup comes back to the default level. If the default value is desired to change, please refer to the Command 7Ch.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	02h	Set LED indicators brightness level
Byte 3	XXh	XX: Dim Value (default 3Fh) From 00h (min) to 3Fh (100%)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 02 20 FF FF FF FF	Brightness set to 50%

9. Set backlight level (03h)

This message sets the value of the backlight brightness. The value can be set from 0 to 3Fh (0-100%) of the brightness range.
NOTE: for this command it is possible to enable the night mode. Please refer to the Command 8Dh for further details.
NOTE 2: this setting has temporary effect and at the startup comes back to the default level. If the default value is desired to change, please refer to the Command 7Bh.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	03h	Set backlight level
Byte 3	XXh	XX: Value (default 00h) From 00h (0%) to 3Fh (100%)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 03 10 FF FF FF FF	Backlight level set to 25%

10. Set startup keys message(28h)

This command enables the transmission of the state of the keys during power up.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	28h	Set startup keys message
Byte 3	XXh	XX: 00h Disabled (default) 01h Enabled
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 28 01 FF FF FF FF	Startup keys message enabled

11. Get software revision (2Ah)

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	2Ah	Get software revision
Byte 3,7	FFh	Not used

Answer:

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	2Ah	Get software revision
Byte 3,6	XXh XXh XXh XXh	SW revision ASCII
Byte 7	00h	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 2A FF FF FF FF FF	Get software revision
From Keypad	18EFFF21h	Ext	04 1B 2A 32 2E 33 34 00	2.34

12. Set startup LED show (34h)

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	34h	Set startup LED show
Byte 3	XXh	XX: 00h: OFF 01h: Complete LED show (default) 02h: Fast flash
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 34 01 FF FF FF FF	Complete LED show

13. Set LED management mode (37h)

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	37h	Set LED management mode
Byte 3	XXh	XX: 00h single LED state enabled (default) 02h single/multiple LED state enabled
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 37 02 FF FF FF FF	Single/multiple LED state enabled

14. Set Destination Address (6Eh)

This message is used to set the addressee node of the Key Contact state transmitted by the keypad. The default destination address is FFh (broadcast).

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	6Eh	Set Destination Address
Byte 3	XXh	XX: CAN Destination Address From 00h to FFh FEh: reserved
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 6E 03 FF FF FF FF	CAN destination address set to 03h

15. Baud rate setting (6Fh)

This message is used to change the baud rate of the CAN bus. Connecting only one keypad to the bus when changing the baud rate is recommended. If an invalid value is chosen, then no change is done to the stored value.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	6Fh	Baud rate setting
Byte 3	02h	500kbit/s
	03h	250kbit/s
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 6F 02 FF FF FF FF	Baud rate set to 500kbit/s

16. Set Source Address (70h)

This message is used to change the keypad CAN Source Address and/or the Keypad Identifier. Either or both the Source Address or Keypad Identifier may be changed independently. Connecting only one keypad to the bus when changing the keypad address is recommended. If an invalid value is chosen, then no change is done to the stored value.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	70h	Set Source Address
Byte 3	XXh	XX: CAN Source Address From 01h to FDh FEh: reserved FFh: no change
Byte 4	YYh	YY: Keypad Identifier From 01h to FDh FEh: reserved FFh: no change
Byte 5,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 70 24 24 FF FF FF	Source address set to 24h; Keypad identifier set to 24h.

17. Periodic key-state transmission (71h)

This message enables or disables the periodic transmission of the Key state.
When enabled, one contact state message is periodically sent for each key of the keypad.
The period is set to 100ms as default value but can be changed by command 77h.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	71h	Periodic key-state transmission
Byte 3	XXh	XX: 00h Disabled (default) 01h Enabled
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 71 01 FF FF FF FF	Periodic key-state transmission enabled

18. Event state transmission (72h)

This message enables or disables event driven key state transmissions. When this feature is enabled, the keypad transmits the state of a contact at the time that the contact changes state (pressed or released).

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	72h	Event state transmission
Byte 3	XXh	XX: 00h Disabled 01h Enabled (default)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 72 01 FF FF FF FF	Event state transmission enabled

19. LED Acknowledgment (73h)

This command enables or disables the transmission of the LED Acknowledgement message. When this feature is enabled, the keypad transmits an acknowledgement message each time a single LED state is set by using the specific command (see chapter 7a. LED COMMAND).

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	73h	LED Acknowledgement
Byte 3	XXh	XX: 00h Disabled (default) 01h Enabled
Byte 4,7	FFh	Not used

Example:

Direction	**Identifier**	**Format**	**Message**	**Data**
To Keypad	18EF2100h	Ext	04 1B 73 01 FF FF FF FF	LED acknowledgement enabled
To Keypad	18EF2100h	Ext	04 1B 01 01 04 03 05 FF	LED Command
From Keypad	18EFFF21h	Ext	00 03 01 04 05 FF FF FF	LED Ack message

LED Acknowledgment message:

Byte 0	00h	
Byte 1	XXh	XX: LED state
Byte 2	YYh	YY: LED number
Byte 3	PPh	PP: Primary color
Byte 4	ZZh	ZZ: Secondary color
Byte 5,7	FFh	Not used

20. Address Claim at boot (74h)

This message enables or disables the address claim procedure.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	74h	Address claim at boot
Byte 3	XXh	XX: 00h Disabled (default) 01h Enabled
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 74 01 FF FF FF FF	Address claim enabled

Address claiming procedure:

Under normal operation, the keypad application sends an Address Claim parameter group at start up and waits up to 250 ms for the other devices connected to the same network to send a message containing the device's address and name. The keypad checks every response and compares the names to see who has the highest priority. If a device is already using the address and has a higher priority, then a new address is selected, and the process starts over. If the keypad has a higher priority than the device in use then it waits for other systems to reply, while the responding device will have to change its address and send an address claim itself. If no message is received after the time (250ms) is up, then the device has claimed the address.

Address claim parameter group:

Priority = 6.
Destination Address should always be the Global Address FFh
Parameter Group Number (PGN) = 60928(EE00h).
Data Length = 8
Data = NAME field

Example:

Direction	Identifier	Format	Message	Data
From Keypad	18EEFF21h	Ext	FF FF 9F 60 00 82 3C 00	

21. Heartbeat (75h)

This command enables or disables the transmission of Heartbeat message. This message is designed to indicate to other devices on the bus the keypad continues to function.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	75h	Heartbeat
Byte 3	XXh	XX: 00h Disabled (default) 01h Enabled
Byte 4	YYh	YY: Period in milliseconds ÷ 10 From 05h (50ms) to FEh (2.54 sec)
Byte 5,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 75 01 FE FF FF FF	Heartbeat enabled with 2.54s period.

Heartbeat generated message:

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	F9h	Heartbeat message
Byte 3	XXh	XX: Message counter, incremented each message sent
Byte 4	00 00 00 00 00 K3 K2 K1	Key state indicators Each bit represents a key state 0: released 1: pressed
Byte 5	00h	
Byte 6	FFh	Not used
Byte 7	21h	Keypad identifier

Example:

Direction	Identifier	Format	Message	Data
From Keypad	18EFFF21h	Ext	04 1B F9 F1 02 00 FF 21	Heartbeat message with key 2 pressed.
From Keypad	18EFFF21h	Ext	04 1B F9 F2 04 00 FF 21	Heartbeat message with key 3 pressed

22. Key-state message period (77h)

This message sets the period time for the PERIODIC KEY-STATE TRANSMISSION (71h).

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	77h	Key-state message period
Byte 3	XXh	XX: Period in milliseconds ÷ 10 From 05h (50ms) to FEh (2.54 sec)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 77 32 FF FF FF FF	Period set to 500ms

23. Start Demo mode (7Ah)

This message enables the Demo mode function. Demo mode is a special feature that consists in different LED states for each key pressing. Refer to the appendix “Demo mode instructions” to try these special features. Disconnect and reconnect the keypad after sending the message to enter this mode. To exit the Demo mode, send the Disable Demo mode command or another command message.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	7Ah	Start Demo mode
Byte 3	XXh	XX: 00h Disabled (Default) 01h Enabled
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 7A 01 FF FF FF FF	Demo mode enabled

24. Default backlight brightness level (7Bh)

This message sets the default value of the backlight brightness. The level can be set from 0 to 3Fh (0-100%) of the brightness range.
NOTE: for this command it is possible to enable the night mode. Please refer to the Command 8Dh for further details.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	7Bh	Default backlight brightness level
Byte 3	XXh	XX: Value From 00h (0%) to 3Fh (100%)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 7B 20 FF FF FF FF	Default backlight level set to 50%

25. Default LED indicators brightness level (7Ch)

This message sets the default value of the LED indicators brightness. The value can be set from 0 to 3Fh (min-100%) of the LED dimming range.
NOTE: for this command it is possible to enable the night mode. Please refer to the Command 8Dh for further details.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	7Ch	Default LED indicators brightness level
Byte 3	XXh	XX: Value From 00h (min) to 3Fh (100%)
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 7C 2F FF FF FF FF	Default LED brightness level set to 75%

26. Default backlight color (7Dh)

This message sets the default color of the backlight.

Byte 0	04h	Header bytes
Byte 1	1Bh	
Byte 2	7Dh	Default backlight color
Byte 3	XXh	XX: color 01: red 02: green 03: blue 04: yellow 05: cyan 06: magenta 07h: white/light blue 08h: amber/orange 09h: yellow/green
Byte 4,7	FFh	Not used

Example:

Direction	Identifier	Format	Message	Data
To Keypad	18EF2100h	Ext	04 1B 7D 03 FF FF FF FF	Default backlight color set to blue

27. Set CAN protocol

This set of messages are used to change to the desired CANbus protocol.

- Change from CANopen to J1939:

Direction	Identifier	Format	Message	Data
To Keypad	600h + current CAN ID (default 615h)	Std	2B FF 20 01 01	Change to J1939

- Change from J1939 to CANopen:

Direction	Identifier	Format	Message	Data
To Keypad	18EFXX00h where XXh is the current CAN source address (default 18EF2100h)	Ext	04 1B 80 00 FF FF FF FF	Change to CANopen

APPENDIX: DEMO Mode instructions

In DEMO Mode you can try the following functions by pressing keys on the PKP1300SI.

Entering this mode, you turn the LED indicators on with red color; each time you press the key 1 you can change the color of the indicators with the following sequence:

1. Red;
2. Green;
3. Blue;
4. Yellow;
5. Cyan;
6. Magenta;
7. White/light blue;
8. Amber;
9. Yellow/green;
10. OFF.

If you press the key 2, there are different steps in this sequence:

1. Complete LED show of all colors;
2. Backlight active with keys on in sequence (it is possible to change the color of LED indicators by pressing key 1)
3. Alternate blinking of LED keys number 1 red color; 2 with amber color; 3 with yellow color.

In the case you press the key 3 there are no events.

28. Revision history

Date	Manual Revision	Comment
09/09/2026	1.0	First release