SERIES 3D/ 3J / 3K
FREQUENTY ASKED QUESTIONS

- How do I learn more about the 3K / 3J series communication protocol?
  Contact your local Grayhill manufacturer's representative or Grayhill sales to request a copy of the User Manual for either J1939 or CANopen version.
- What format can legend information be provided?
  A blank template is available from Grayhill. With it, customers may add:
  Vector-based artwork (Adobe Illustrator, AutoCAD DXF)
  Or
  Reference to SAE J1362, ISO2575, ASAE S304.7 icons, etc

  Grayhill will take customer-submitted artwork and generate scaled approval artwork for review. This will properly scale artwork for position, size, and line weight to match the laser etching process.
- What keypad colors are available?
  The keypad manufacturing process has limitations on how many colors can be realized. Icons such as red hazard symbols or yellow warning symbols are possible. These are less desirable when legend backlight is used, as green backlight LEDs will cause color shifting in colored legends. Opaque solid color keytops with white legends can be realized in limited amounts (green, red, yellow, brown, orange, gray)
- What color indicators are available?
  Indicators are available in blue, green, red, and amber. Customer should indicate the number and color of each indicator. Up to 3 indicators per button.
- Why does PGN 61183 appear at power up?
  This is part of the J1939 address claim sequence. For more information, see the address claim section of the Grayhill User Manual and the J1939 specification.
- I'm having trouble lighting indicators?
  A J1939 PDU1 Format message has the source address of the device you want to send a command to embedded at the low byte of the 16 bit PGN field. However, J1939 still defines the PGN as if this value is zero. The AUXIO #2 is PGN 0xA700, but to talk to the keypad you need to put the keypad's source address at the low byte creating the final value 0xA780. So to turn on all of the indicators for the first 10 buttons, you need to send the following message:

  ID = 0x18A780F9, DLC=8, Data = {0x55, 0x55, 0x55, 0x55, 0x55, 0x55, 0x55, 0x55}

  To control the indicators with the Grayhill proprietary message, send the following:

  ID = 0x18EF80F9, DLC=8, Data = {0x01, 0x13, 0xF4, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF}

  This will cause one of the LED's for the first button to be solid on, the other to blink medium, and the last to blink fast.

  If you change the keypad's source address to say 0x34, change the ID to 0x18EF34F9. Also, a destination address of 0xFF is the global address and all keyads will respond.
- What interface connector plugs into the 3K?
  Deutsch DT06-4S or equivalent

- ## Current Draw

	Stand By		All Inddicators or Display On Full		All Backlights On Full		Heater On		Everything Full	
GH_PN	12v (mA)	24v (mA)	12v (mA)	24v (mA)	12v (mA)	24v (mA)	12v (mA)	24v (mA)	12v (mA)	24v (mA)
Keypad 8 btn	14	11	54	31	62	34			102	55
Keypad 12 btn	13	9	73	39	83	45			145	75
Keypad 15 btn	13	11	89	47	103	54			182	92
Keypad 20 btn	12	9	110	58	123	63			228	114
VDC	21	13			190	94			190	94
MicroDisplay	21	11	78	40	74	38	428	197	550	252