

# Encoder Line Drivers

## Technical Data

**HEDL-550X/554X**  
**HEDL-556X/557X**  
**HEDL-560X/564X**  
**HEDL-9000/9100/9200**  
**HEDL-9040/9140**  
**HEDL-9060/9160/9260**  
**HEDL-9061/9161**

### Features

- Available on Both Encoder Modules (HEDS-9000 Series) and Encoder Kit Housings (HEDS-5500 Series)
- Complementary Outputs
- Industry Standard Line Driver IC
- Single 5 V Supply
- Onboard Bypass Capacitor
- 70°C and 100°C Versions Available

### Description

Line Drivers are available for the HEDS-55XX/56XX series and the HEDS-9000/9100/9200/9040/

9140 series encoders. The line driver offers enhanced performance when the encoder is used in noisy environments, or when it is required to drive long distances.

The 70°C version utilizes an industry standard line driver IC (26LS31) which provides complementary outputs for each encoder channel. The 100°C version utilizes an industry standard line driver IC, 26C31, which provides complementary outputs for each encoder channel. Thus, the output of the line driver encoder is A,  $\bar{A}$ , B,  $\bar{B}$  and I/ $\bar{I}$  for three channel versions. Suggested line receivers are 26LS32 and 26LS33.



For additional information, please refer to:  
HEDS-5500/5540/5600/5640 data sheet,  
HEDS-90X0/91X0/92X0 data sheets,  
HEDS-9000 series extended resolution data sheet, and  
26LS31 data sheet.

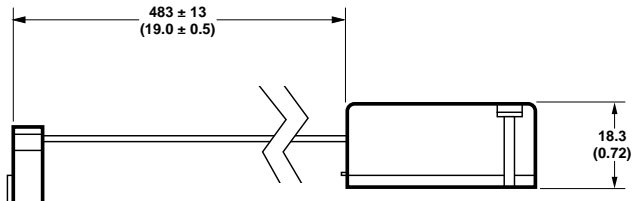
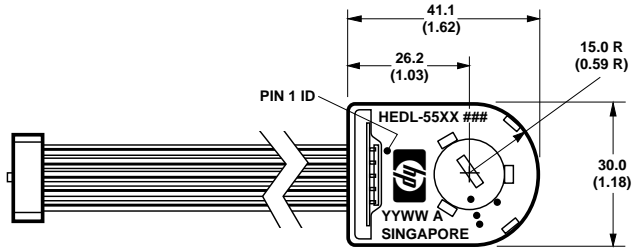
### Device Characteristics

Parameter	Characteristic	Notes
Termination	10 conductor ribbon cable with 10 position IDC Berg connector	See pinout
Electrical Outputs	Complementary outputs: A, $\bar{A}$ , B, $\bar{B}$ , I, $\bar{I}$	I and $\bar{I}$ available only on three channel encoders
Line Driver Components	26LS31 line driver IC, decoupling capacitor on PC board.	
Operating Temperature Range	0°C to 70°C	70°C Series
	0°C to 100°C	100°C Series
Storage Temperature	-40°C to 70°C	70°C Series
	-40°C to 100°C	100°C Series

**ESD WARNING: NORMAL HANDLING PRECAUTIONS SHOULD BE TAKEN TO AVOID STATIC DISCHARGE.**

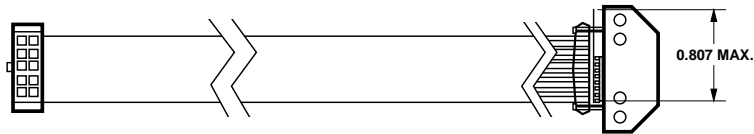
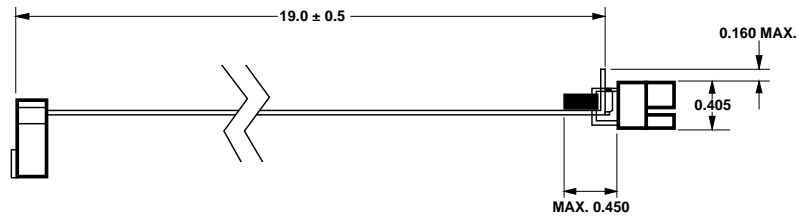
## Line Driver Package Dimensions

For Detailed Dimensions on encoder packages, please refer to the respective data sheets.



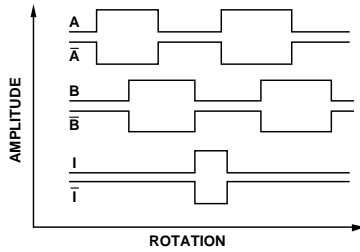
HEDL-550X/554X/560X/564X  
HEDL-556X/557X

NOTE: DIMENSIONS IN MILLIMETERS (INCHES)

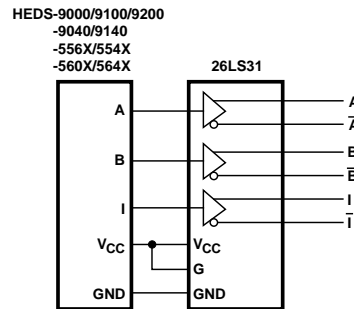


HEDL-9000/9100/9200/9040/9140  
HEDL-9060/9160/9260/9061/9161

## Waveforms

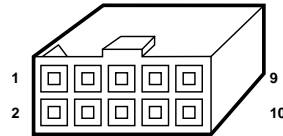


## Block Diagram



## Pinouts

10-PIN CONNECTOR		
NO.	COLOR	PARAMETER
1	BROWN	NC
2	RED	V <sub>CC</sub> (+5 V)
3	ORANGE	GND
4	YELLOW	NC
5	GREEN	A
6	BLUE	A
7	VIOLET	B
8	GREY	B
9	WHITE	I (INDEX)



10 POSITION IDC CONNECTOR  
CENTER POLARIZED.

Note: I/I only available on three channel encoders.

## Line Driver Base Parts Available:

70°C Line Driver Base Part	100°C Line Driver Base Part	Channels	Refer to the following encoder data sheet for additional information and option codes (XXX = resolution and/or shaft size)
HEDL-5500#XXX	HEDL-5568#XXX	A, B	HEDS-5500#XXX
HEDL-5505#XXX	HEDL-5569#XXX	A, B	HEDS-5505#XXX
HEDL-5540#XXX	HEDL-5570#XXX	A, B, I	HEDS-5540#XXX
HEDL-5545#XXX	HEDL-5571#XXX	A, B, I	HEDS-5545#XXX
HEDL-5600#XXX	HEDL-5572#XXX	A, B	HEDS-5600#XXX
HEDL-5605#XXX	HEDL-5573#XXX	A, B	HEDS-5605#XXX
HEDL-5640#XXX	HEDL-5574#XXX	A, B, I	HEDS-5640#XXX
HEDL-5645#XXX	HEDL-5575#XXX	A, B, I	HEDS-5645#XXX
HEDL-9000#XXX	HEDL-9060#XXX	A, B	HEDS-9000#XXX
HEDL-9040#XXX	HEDL-9061#XXX	A, B, I	HEDS-9040#XXX
HEDL-9100#XXX	HEDL-9160#XXX	A, B	HEDS-9100#XXX
HEDL-9140#XXX	HEDL-9161#XXX	A, B, I	HEDS-9140#XXX
HEDL-9200#XXX	HEDL-9260#XXX	A, B	HEDS-9200#XXX

## Ordering Information:

For option code selection, refer to the data sheet for the corresponding "HEDS" part number (see right column).