

SERIES 65 Optical Encoder Interface



FEATURES

- Interfaces with all Grayhill and Most Standard Quadrature Optical Encoders
- Power Reduction of Up to 75-90% in Optical Encoder Use Through Power Management Feature
- User Selectable Output Modes: Magnitude/Direction, Up/Down, Standard Quadrature
- Simplified Microprocessor Interface Reduces Design Time
- Debounces Encoder Integral Pushbutton Switch
- Ideal for Battery Powered Applications that Include Optical Encoders



DESCRIPTION

The GH65C11-X is designed to receive input from standard quadrature optical encoders. The power management feature allows power to the encoder to be applied only during sampling intervals, thus conserving power (especially advantageous in battery powered systems). Sample rate is a nominal 4K per second allowing high speed quadrature input. The optical encoder interface can operate in 1 of 3 user-selectable output modes. These modes are: magnitude and direction, up and down count, and standard quadrature. Debouncing of an integral pushbutton switch within the optical encoder can also be accomplished.

Name	Type*	Description				
M0, M1	I	Mode selection input pins				
V _{nn}	Р	3–6 Vdc power source				
V _{DD} RES	I	Reset pin, normally connected to V _{DD}	SOIC/DIP		SSOP	
V _{ss}	Р	GND, 0v nominal power return	M0 🖬 1 M1 🖬 2	18 □ ØBO/DN/DR 17 □ ØAO/UP/MG	M0 🖬 1 M1 🖬 2	20 🗅 ØBO/DN/DR 19 🗆 ØAO/UP/MG
ØÅI, ØBI	I	Phase A and B quadrature input pins	V _{DD} 3	16 🗆 RC		18 🗆 RC
SWI	I	Switch input pin	RES 4		RES 4	
SWO	0	Debounced switch output pin	V _{ss} ⊟5 ØAI ⊒6	14 □ V₀₀ 13 □ PW	V _{ss} □5 V _{ss} □6	16 □ V _{DD} 15 □ V _{DD}
NC	0	No connect, this pin must be left unconnected	ØBI 🗖 7	12 🗆 PW	ØAI 🗖 7	14 🗆 PW
PW	0	Power source for encoder power management	SWI □8 SWO□9	11 🗆 PW 10 🗖 PW	ØBI⊏I8 SWI⊏I9	13 🗆 PW 12 🗖 PW
RC	I/O	RC oscillator pin	30049		SWO II 10	11 P PW
ØBO/DN/DR	0	Phase B, down, direction, mode conditional output pin				
ØAO/UP/MG	0	Phase A, up, magnitude, mode conditional output pin				

ORDERING INFORMATION



Available from your local Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

For additional information about the use of the GH65 interface chips with optical encoders request Grayhill Application Note #719.