



Figure 1- GCI04002

GCI Optical Transceiver

GCI04002

Get Control's GCI04002 Optical Transceiver optically extends the parallel I/O communications associated with 300mm material handoff operations between active and passive entities.

- A high-quality lower-cost alternative to the current single source.
- SEMI® E84 compatible parallel input and output sections.
- Meets SEMI® E15 interface sensor unit exclusion volume requirements for 300mm applications.
- 100% optical and mechanical compatibility with DMS-HB1 and DM-HB1 optical data transmission devices.
- Status indicator LEDs for input, output, and go signals and optical transceiver power.

Power Source	18 to 30VDC @ 100 mA max	Transmission Capacity	Input: 8 bit Output: 8 bit
Input	On 10 mA max, 1.8 VDC max Off 200 uA max, 30 VDC max	Transmission Method	Half-Duplex Two-Way Transmission
Output	On 25 mA min Sink, 1.8 VDC max Off 100 uA max Source, 30 VDC max	Transmission Time	Less than 40 milliseconds
Termination	Molded DB-25 male connector w/4-40 male thumbscrews 2 m (6.5'), 5m (16.4'), 0.5m (1.6')	Modulation Type	Pulse Modulation
Compatibility	DMS-HB1 and DM-HB1	Verification Method	Parity Check
Dimensions	50.8mm x 50.8mm x 20.3mm (2.0" x 2.0" x 0.80")	Projection Element	Infrared LED, 875 nm, 120 mW/sr
Transmission Distance	1 meter (3' 4")	Reception Element	PIN Diode, 880 nm, 500 mW/cm ²
Directivity (full angle)	30 degrees	Ambient Illumination	4,000 lux or less

Table 1- GCI04002 Specifications

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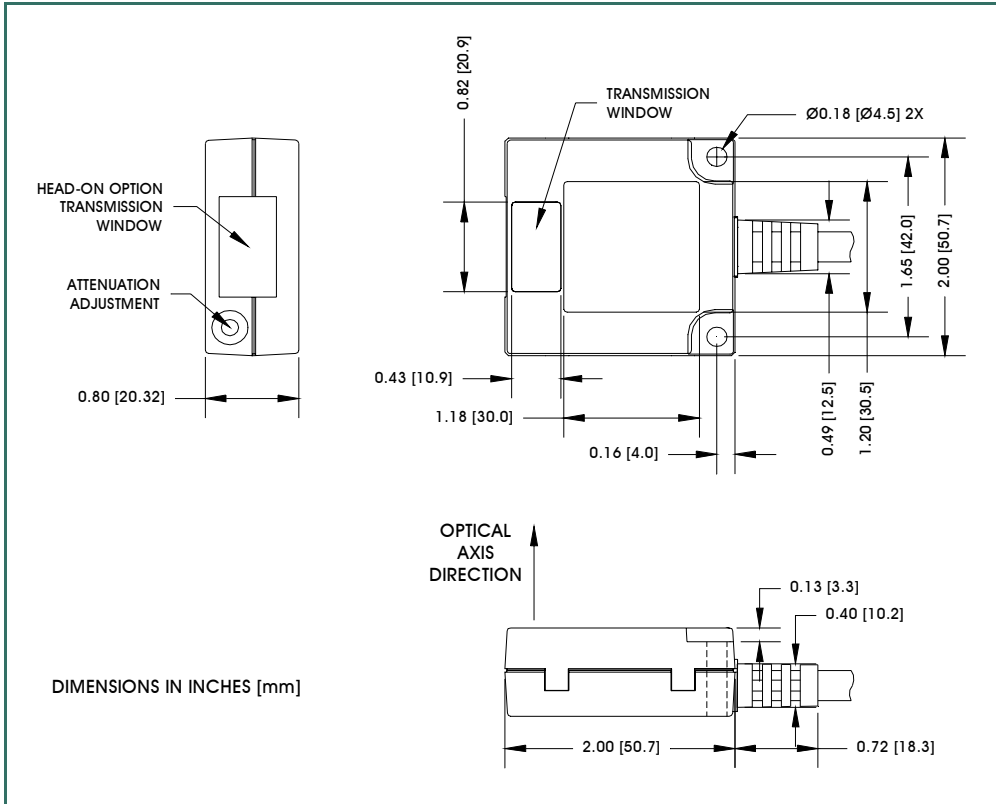


Figure 2 - Mounting Details

Figure 2 shows the mechanical dimensions of the GCI04002 Optical Transceiver. It is equipped with a cable terminated with a molded male 25-pin D-Sub connector wired to SEMI® E84 pin assignments. Table 2 shows the pin assignments for the passive configuration.

The GO signal (pin 12) is an output from the GCI04002. This output is on when the GCI04002 is synchronized with another optical transmission device.

SELECT (pin 10) and MODE (pin 11) signals are inputs to the GCI04002. Turn the SELECT input on to disable optical transmission and reception. All output signals are off. When the MODE input is on, it disables optical transmission while the GCI04002 is not synchronized with another optical transceiver.

Pin	Male DB-25 Passive	
	Transceiver Signal	Related E84 Signal
1	IN 1	L REQ
2	IN 2	U REQ
3	IN 3	VA ⁵
4	IN 4	READY
5	IN 5	VS 0 ⁵
6	IN 6	VS 1 ⁵
7	IN 7	HO AVBL
8	IN 8	ES
9	NC ¹	-
10	SELECT	Reserved ²
11	MODE	Reserved ²
12	GO	Reserved ²
13	NC ¹	-
14	OUT 1	VALID
15	OUT 2	CS 0
16	OUT 3	CS 1
17	OUT 4	AM AVBL ⁵
18	OUT 5	TR REQ
19	OUT 6	BUSY
20	OUT 7	COMPT
21	OUT 8	CONT
22	Power ³	24 Vdc
23	Power ³	
24	Power GND ⁴	Signal GND
25	Signal GND ⁴	Power COM

- NOTE 1: Not Connected
 NOTE 2: The SEMI® E84 Specification states that Reserved signals may be used to support signals required for interface units.
 NOTE 3: Power pins 22 and 23 are internally connected together.
 NOTE 4: Ground pins 24 and 25 are internally connected together.
 NOTE 5: For use with passive OHS vehicles.

Table 2- DB-25 Pin Assignments

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