

Data Communication Interface Devices

SERIAL TRANSMISSION INTERFACE DEVICES, HIM SERIES [Conforms to EIA standards]

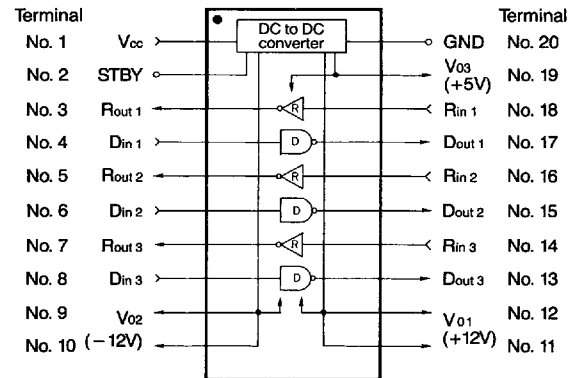
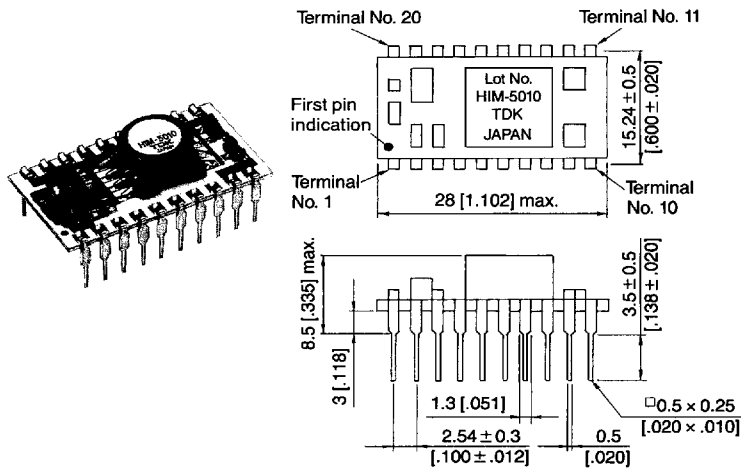
FEATURES

- This interface module conforms to EIA standards.
- Because all components such as the DC to DC converter, driver IC (equivalent to 75188), receiver IC (equivalent to 75189) and capacitors are built in, no external part is required.

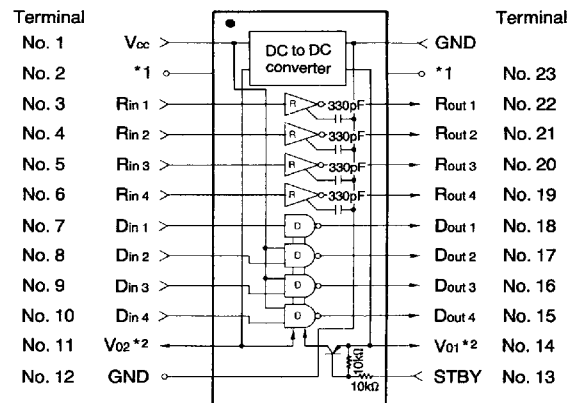
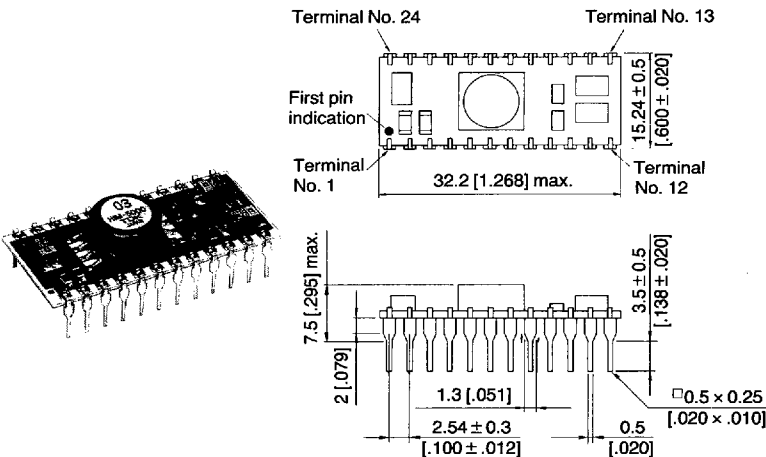
Part No.	EIA standard	Part No.	EIA standard
HIM-5010	RS232D	HIM-7000	RS232C
HIM-5000	RS232C	HIM-7101	RS485

Part No.	Shapes and dimensions (mm) [inches]	Block diagram
----------	-------------------------------------	---------------

HIM-5010



HIM-5000



*1. As pin Nos. 2 and 23 are connected internally, do not connect external circuit.
 *2. Do not use V₀₁ and V₀₂ for power supply.

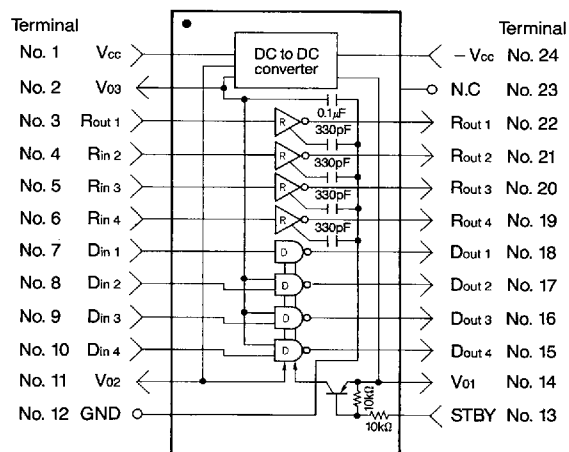
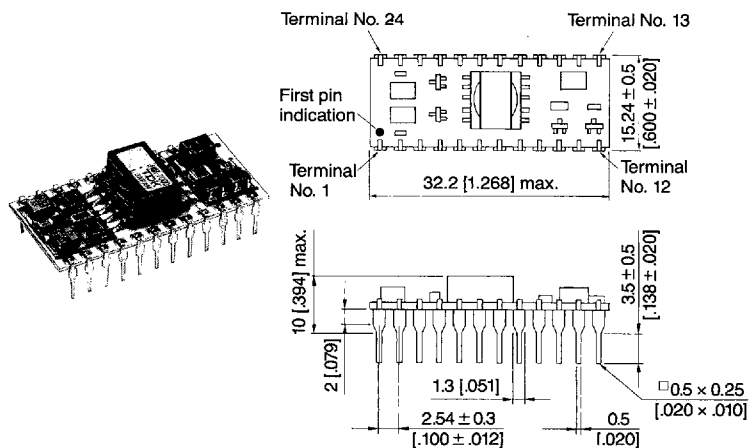
Data Communication Interface Devices

Part No.

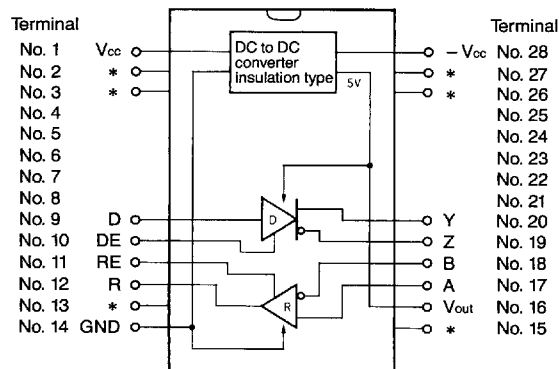
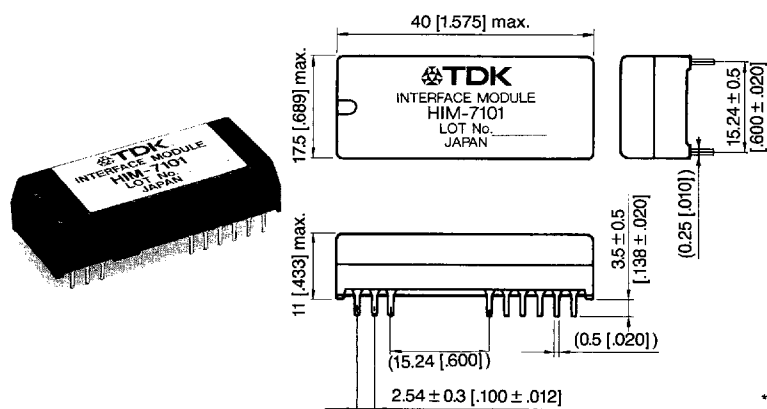
Shapes and dimensions (mm) [inches]

Block diagram

HIM-7000



HIM-7101



* As pin Nos. 2, 3, 13, 15, 26 and 27 are connected internally, do not connect external circuit.

• Pin Nos. 4, 5, 6, 7, 8, 21, 22, 23, 24 and 25 are NC.

ELECTRICAL CHARACTERISTICS

Part No.			HIM-5010	HIM-5000	HIM-7000	HIM-7101
Maximum rating						
Operating temperature range	T _{OPR}	(°C) (°F)	0 to 70 [31 to 158]	0 to 70 [32 to 158]	0 to 70 [32 to 158]	0 to 70 [32 to 158]
Storage temperature range	T _{STG}	(°C) (°F)	−20 to +85 [−4 to +185]	−20 to +85 [−4 to +185]	−20 to +85 [−4 to +185]	−20 to +85 [−4 to +185]
Humidity	H	(%RH) max.	95	95	95	95
Power supply voltage	V _{CC}	(Vdc)	+10	+7	+5.5	+6
Output voltage 1	V _{O1}	(Vdc)	+15	+15	+15	—
Output voltage 2	V _{O2}	(Vdc)	−15	−15	−15	—
Driver input voltage	V _{DI}	(Vdc)	−0.5 to +6	−15 to +7	−15 to +7	—
Driver output voltage	V _{DO}	(Vdc)	−15 to +15	−15 to +15	−15 to +15	—
Receiver input voltage	V _{RI}	(Vdc)	−30 to +30	−30 to +30	−30 to +30	—
Output current*	I _{O3}	(mA)	—	—	—	110
Enable input voltage	V _{EI}	(Vdc)	—	—	—	+5.5
Bus terminal voltage	V _{BUS}	(Vdc)	—	—	—	−7 to +12
Power supply						
Power supply voltage	V _{CC}	(Vdc)	+4.5 to +9	+4.5 to +5.5	+4.75 to +5.25	+4.75 to +5.25
Power supply voltage [no load]	V _{CC}	(Vdc)	+3 to +9	—	—	—
Power supply current	I _{CC}	(mA)	260	275	275	450
Power supply current [no load]	I _{CC}	(mA)	150	—	—	85
Output voltage 1	V _{O1}	(Vdc)	+9.5 to +15	+12.9	+10	+4.75 to +5.25
Output voltage 2	V _{O2}	(Vdc)	−9.5 to +15	−12.3	−10	—
Output voltage 3*	V _{O3}	(Vdc)	+4.5 to +5.5	—	+4.5 to +5.5	+4.5 to +5.5
Output current 3	I _{O3}	(mA)	5	—	30	100
Output 3 ripple voltage	V _{OR}	(mVdc)	+400	+450	+600	+200
Standby current	I _{STBY}	(mA)	6	65	65	—
Primary-secondary insulation withstanding voltage	V _{BK}	(Vdc)	—	—	+500	+1000
Receiver						
Threshold voltage	V _{RIH}	(Vdc)	+2.25	+2.25	+2.25	+0.2
	V _{RIL}	(Vdc)	+0.65	+0.65	+0.65	−0.2
Line input current	I _I	(mA)	—	—	—	1 [12V], −0.8 [7V]
H-level output voltage	V _{OH}	(Vdc)	+4.8	+4	+4	+2.7
L-level output voltage	V _{OL}	(Vdc)	+0.6	+0.5	+0.5	+0.5
Driver						
Threshold voltage	V _{DIH}	(Vdc)	+2	+2	+2	+2
	V _{DIL}	(Vdc)	+0.8	+0.8	+0.8	+0.8
Output voltage	V _{DOH}	(Vdc)	+10	+8.5	+8.5	—
	V _{DOL}	(Vdc)	−10	−9.5	−8.5	—
Differential output voltage	V _{OD1}	(Vdc)	—	—	—	+1.5 to +6
	V _{OD2}	(Vdc)	—	—	—	+1.5 to +5
	V _{OD3}	(Vdc)	—	—	—	+1.5 to +5

* For external load drive