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TDAS G5-DB Hardware User's Manual



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DTS Support

DTS systems are designed to be simple to operate and reliable, but there may be times when you have questions or you believe the system may not be working properly. DTS has worldwide support for its products. As part of its support team, DTS has engineers with extensive product knowledge and previous crash safety test experience to help via telephone, email or on-site visits.

The best way to get a hold of a DTS support engineer is to email:

support@dtsweb.com

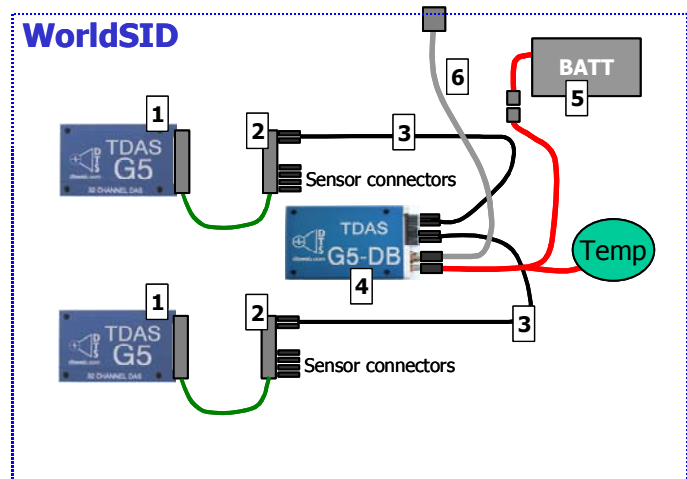
This email is immediately sent to all DTS support engineers and is the fastest way to get a reply to your request.

DTS also offers service contracts that include system calibration, maintenance and on-site service. Please contact DTS if you would like to inquire about a service contract.

Introducing the TDAS G5-DB

The G5-DB (G5 Distribution Box) is a device that is designed to allow the user to connect up to 5 G5 Modules and then connect the G5-DB to a common power, communications and status link. The diagram below shows a typical example.

1. G5 Module
2. Docking Station
3. DS to G5-DB Cable
4. G5-DB
5. In-Dummy Backup Battery
6. G5-DB to Dummy Exit Cable – goes to external PC, power, status output



Summary of TDAS G5-DB Features

- Built and tested for 100+ G dynamic testing environments.
- Contains a 100BaseT Ethernet switch.
- Main and independent backup power inputs.
- Isolated trigger input and status output.
- Connect up to 5 G5 Modules.

Basic Care and Handling

DTS systems are designed to be as simple to operate as possible, but it is important that you carefully follow recommended procedures in order to ensure maximum reliability.

TDAS G5-DBs are precision devices designed to operate reliably in 100+ G dynamic testing environments. **Though resistant to many external environmental conditions, care should be taken not to subject the unit to harsh chemicals, submerge it in water, or drop it onto any unprotected surface.**

When transporting the unit, treat it as you might a laptop computer and you should have no problems. We suggest that you always place the unit in the padded carrying case originally provided with your system when it is not in use.

WARNING:

Electronic equipment dropped from desk height onto a concrete floor may experience as much as 10,000 Gs. Under these conditions, damage to the exterior and/or interior of the unit is likely.

Shock Rating

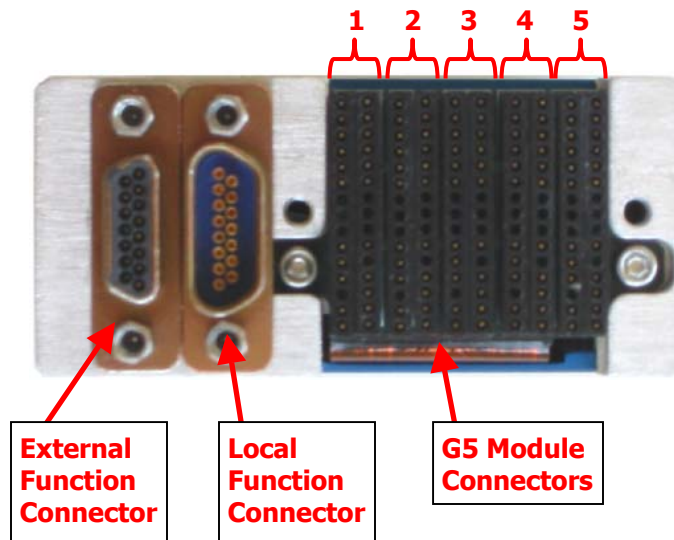
All TDAS systems are rated for and tested to greater than 120 Gs, 12 mS duration, in all axes. TDAS G5 equipment can be mounted directly on a vehicle, sled or other dynamic testing device.

Power Connections and Considerations

A good power source is of paramount importance. TDAS G5 systems should be powered from a fully charged 12-volt battery or a high-quality power supply with a nominal output voltage of 13.8 volts (10-14 volt range).

G5-DB Interface Connectors & Cables

The end view of the G5-DB is shown below. Connector pinouts are given in Appendix A.



The G5-DB to Dummy Exit cable is installed on the External Function Connector. External functions include Ethernet communications, trigger, external power and

control signals. A picture of this cable is shown below and pinouts are given in Appendix A.



The **Internal Function Connector** goes to the in-dummy battery and temperature sensor. See Appendix A for pinouts.

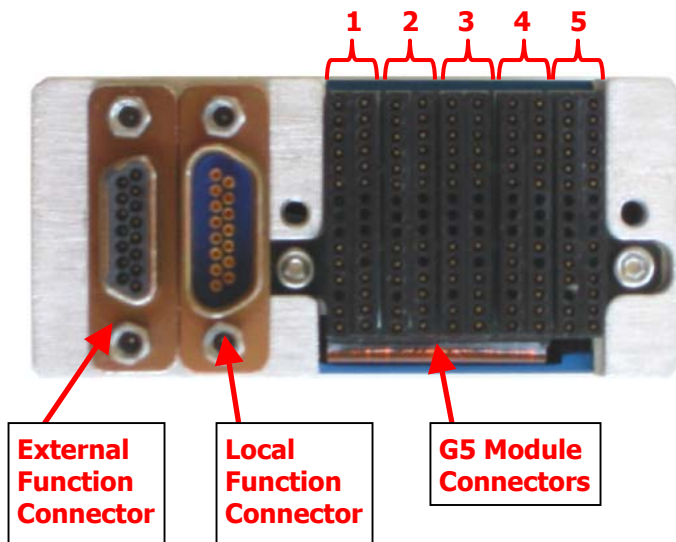
A picture of the Docking Station to G5-DB cable is shown below. Either side of the cable can be connected to the Module Docking Station or the G5-DB. A cut out in the middle of the connector potting is provided for clamping the connector to the Module Docking Station or G5-DB. Pinout details are provided in Appendix A.



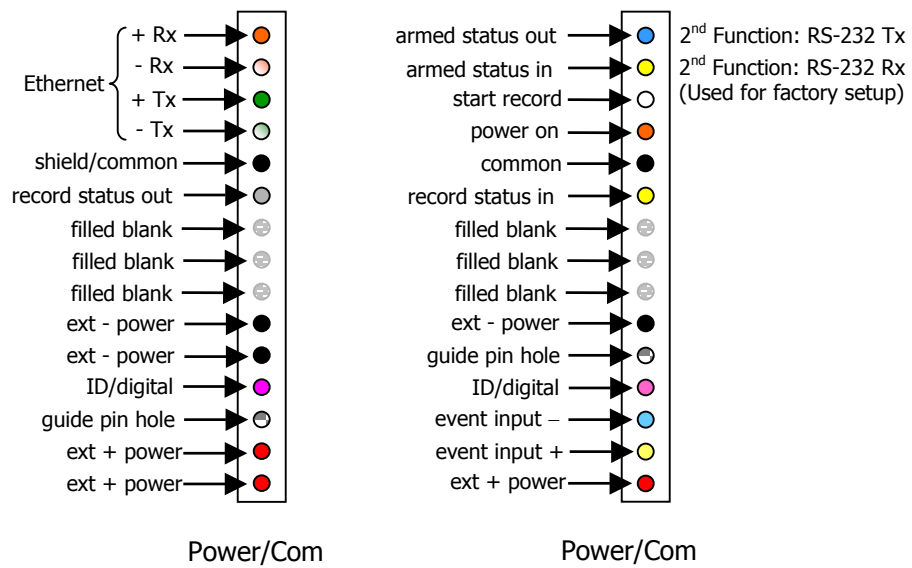
WARNING:

Do not apply external voltages to the event, communication, fault or control output and inputs—this could result in damage to the unit. Please contact DTS for assistance in properly connecting interface wiring to TDAS modules. DTS offers several interface devices that are specifically designed to connect modules in various ways.

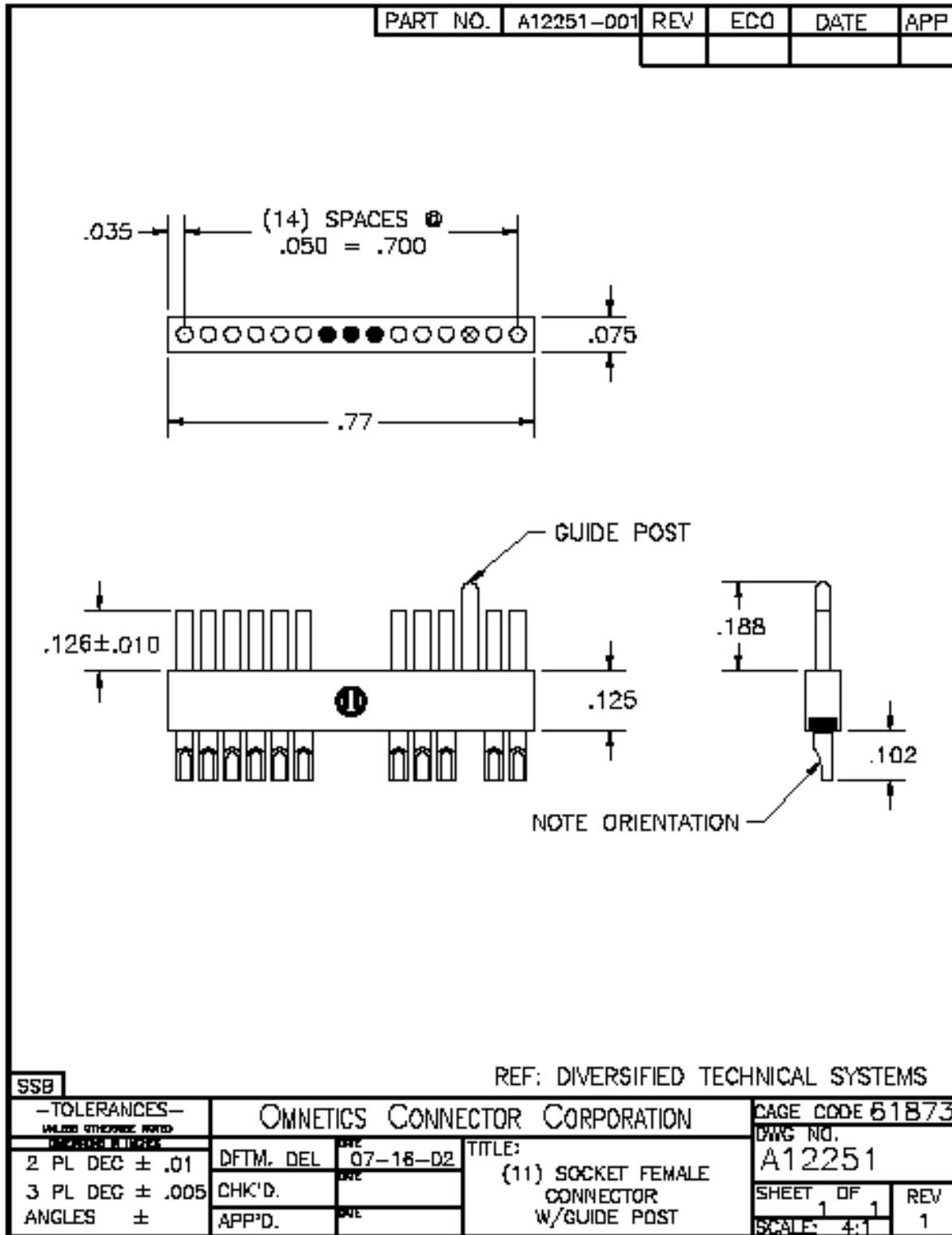
Appendix A: G5-DB Connector Pinouts



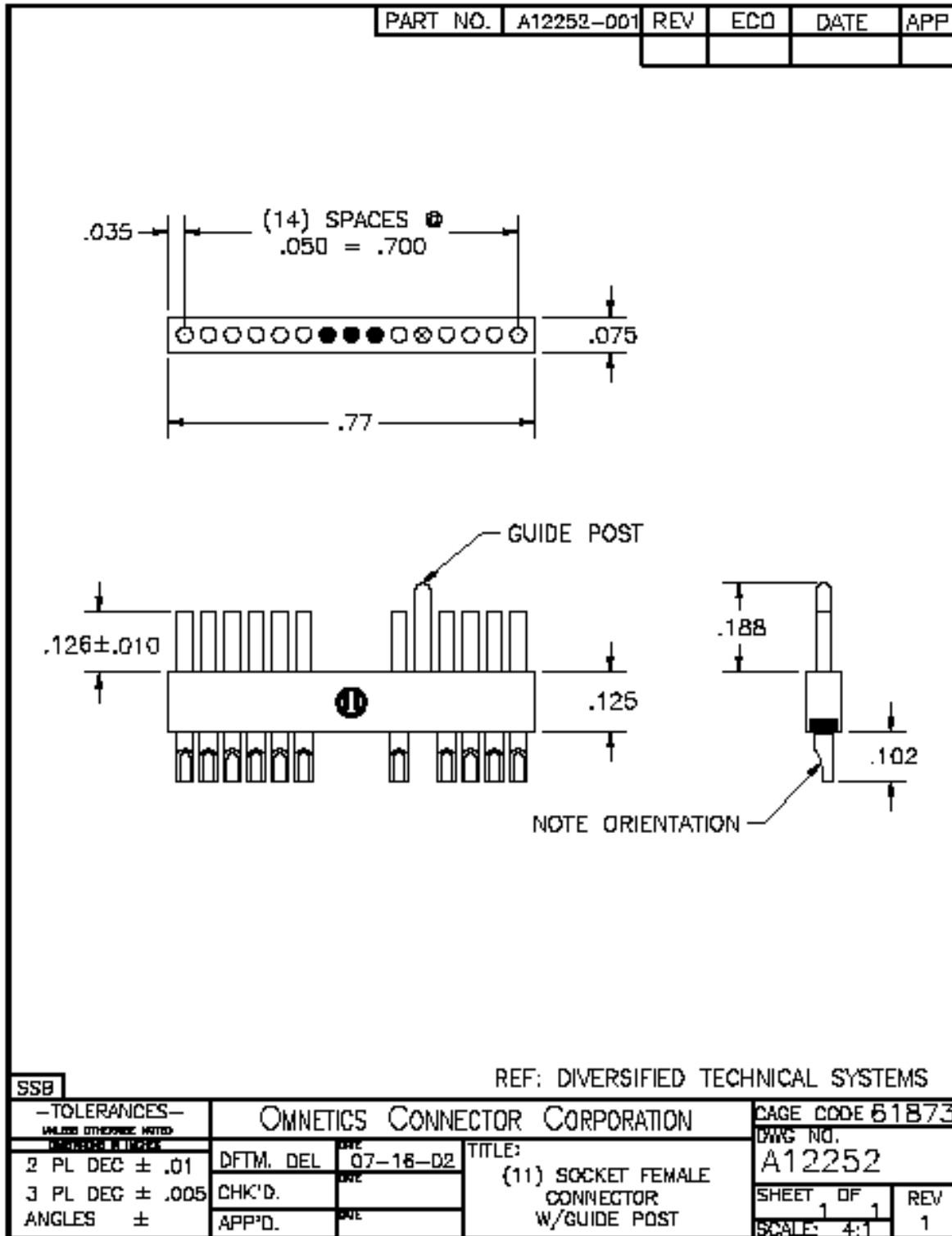
G5 Module Connectors.



Mating Connector 1 for G5 Module



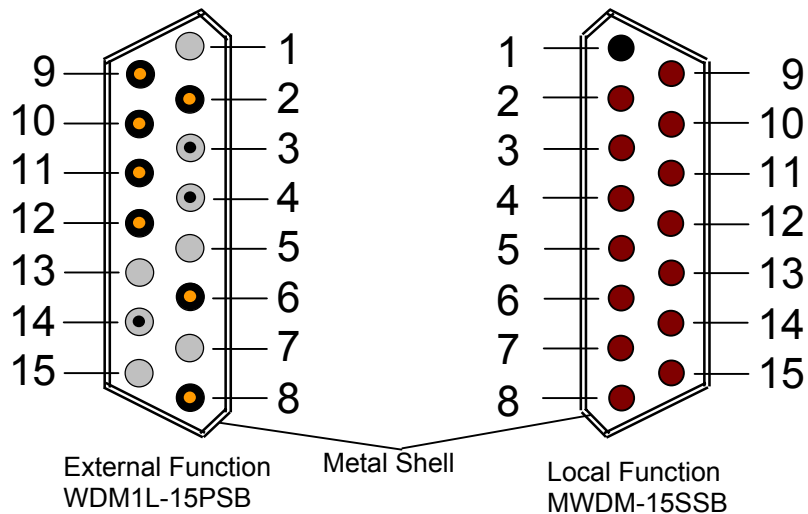
Mating Connector 2 for G5 Module



External Function and Local Function 15-pin connectors

Note. Metal Shell wired to the chassis inside the In-Dummy Hub

PIN #	External Function Connector	Local Function Connector	Note
1	+V1	+V1	+ Main Power Input
2	+ Event	+ Event	Fully Isolated Input (Contact Closure)
3	- Event	- Event	
4	Start Record	Start Record	Semi-Isolated Input
5	Record Status	Record Status	Output. 5V = OK
6	Arm Status	Arm Status	RS-232 Output. +V=Armed
7	ID	ID	ID line from G5 Module 1
8	+V2	+V2	+ Main Power Input
9	GND	GND	Power/Signal GND
10	RXP Ethernet	From Battery +	Ethernet or Powering / Charging 4- Wire External Battery Interface
11	RXN Ethernet	From Battery +	
12	TXP Ethernet	To Battery +	
13	TXN Ethernet	GND	
14	PWR ON	PWR ON	Grounded = ON
15	GND	GND	Power/Signal GND



Glenair www.glenair.com

14 Pin Lemo Connector on G5-DB to Dummy Exit Cable

Lemo Pin #	20 Feet 9507 – Color Code	Function
1	RED	Main Power, +12 VDC
2	BLACK	Main Power, +12 VDC
8	BROWN	Main GND
4	BLACK	MAIN GND
5	GREEN	Ethernet +Rx
6	BLACK	Ethernet –Rx
7	ORANGE	Ethernet +Tx
3	BLACK	Ethernet –Tx
9	WHITE	Event +
10	BLACK	Event –
11	BLUE	Arm Status (RS-232 Level, +V=Armed)
12	BLACK	Power ON (short to GND = ON)
13	YELLOW	Status Output (5V = OK)
14	BLACK	Start Record (Vin = Record)