

Working with JST connectors

JST connectors are widely used in pointing device products since they are readily available worldwide through distribution, or direct from the manufacturers. This document provides assistance in purchasing, assembling and using these connectors with Pretorian Technologies Trackball products.

1. Trackball Connectors

There are two types of connectors used on Pretorian Technologies Trackballs—both from the PH range. One is 10-way and the other 6-way. The 10-way derivative is used for quadrature/protocol connections and for button/ z-axis inputs. The 6-way derivative is used for RS232 communications (where fitted).

Specifically, the following part numbers are used:

- S6B-PH-SM3-TB (6-way)
- S10B-PH-SM3-TB (10-way)

Both of these parts are right angled to reduce the overall height of the Trackball unit.

2. Mating Housings

The following housings should be used with the connectors listed in Section 1:

Discrete wiring

- PHR-6 (6-way)
- PHR-10 (10-way)

Insulation Displacement (IDC)

- 06CR-6H (6-way)
- 06KR-6S

- 10CR-6H (10-way)
- 10KR-6S

All of the above IDC housings are for 28AWG wire. Other sizes gauges are available.

3. Crimps

When using PH housings for individual wires, the following crimps are recommended

- SPH-002T-P0.5S

These are suitable for AWG24 through 30 (0.9mm through 1.5mm \varnothing). Other gauges are available.

4. Crimping and Insertion

Hand crimping tools WC240 and YRS240 are available directly from JST for the crimps specified in Section 3. Optimal wire strip length is 1.9mm through 2.5mm.

Please note that the WC240 is a low cost hand crimping tool manufactured in Europe. It may not be available elsewhere.

Once the crimped wire has been inserted in the housing, it should be checked for locking by pulling with a force of no more than 3N (to prevent damage to the lance).

5. Extraction of crimped wires

If necessary, the wires may be removed from the housing if an error is made in assembly. However, JST recommend that components are only reused once.

To remove a crimped wire from a

housing, first push gently on the wire to move the lance away from the window in the housing. Insert JST extraction tool PHJ-05 into wire entry point and compress lance. Pull crimped wire from the housing.

If no extraction tool is available, the plastic tag may be lifted slightly with tweezers to release the lance.

6. Subcontract cable manufacture

For large quantities of cables, it is recommended that a subcontract manufacturing facility with semi or fully automatic crimping and insertion machines is used. JST can supply details of suitable subcontractors in your region.

7. Further assistance

Pretorian Technologies can supply production quantities of standard cables for USB, PS/2 and RS232 applications in addition to unterminated (wire-ended) cable assemblies.

Further information on JST connectors and subcontractors is available from www.jst.com. A global list of local sales offices and representatives is available on this website.

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