INSTRUCTION MANUAL

DataCell D

Congratulations on your purchase of an Aegis Pty Ltd DataCell.
We are sure you will be satisfied with its performance and reliability. Please
read these instructions carefully before using your DataCell and refer to
these notes from time to time to ensure you are always familiar with its
operation.

⚠️ Safety Warning

- **This product contains primary lithium battery cells.**

- **Any use of the product contrary to that described in this user manual may present risk of personal injury, high temperatures, fire or explosion and will void any performance specifications of the product.**

- **Do not open, damage, puncture, incinerate, or expose to temperatures above 55°C.**

- **Transport and dispose of in accordance with manufacturer instructions and local regulations.**

- **Do not use this product if it is damaged in any way.**

Aegis Pty Ltd can also supply many instruments for a number of applications
to support installation and maintenance of cabling for the telecommunications,
Data and Electrical industries.

 If you require further information on any of these instruments, please contact
us by way of the phone, fax or e-mail.

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1. INTRODUCTION

The DataCell D has been designed to give you reliable and accurate data logging of metering and industrial processes in all environments. Commissioning and data collection is done locally via the DataCell's optical port using the Infrared Cable (IRC) and a notebook PC.

Once installed, the DataCell D should continue to operate without further adjustment for the expected life of its batteries. Typical operation parameters can be changed by using the Infra Red Cable and the Connect software suite. This software is available via internet download from the resources page at www.DataCell.co or by contacting Aegis.

2. INSTALLATION

2.1. Mounting

The DataCell D is designed to be mounted in an upright position. Select a suitable mounting location, considering operational issues such as clearances from objects that may cause physical damage to the unit. Mount the supplied bracket using an appropriate fixing mechanism ensuring the product is mounted securely and cannot be dislodged. Fasten the product in place by fixing the supplied screws through the bracket and into the bracket mounting holes as shown in Fig 2.2.

2.2. Bottom Panel Layout

Key to Fig 2.2

1. Input 1 programmable input.

2. Input 2 programmable input with protective cap.

3. Input 3 programmable input with protective cap.

4. Input 4 programmable input with protective cap.

5. IRC Receptacle: Infrared communications port.

6. Bracket mounting holes.

2.3. Input connections

There are four sockets on the bottom of the DataCell D. These are the inputs for the DataCell data logger to connect to various sensors. Three inputs will have a cap covering the input sockets to protect them from damage when not in use, see fig 2.2.

The connections for the input sockets at the bottom of the unit are as follows:

R: Return (internal Ground)

L: Line

T: Tamper

See figure 2.3 below, for details of a typical connection to a water meter 'switch type' (reed switch) sensor. The sensor cable outer diameter must be between 4.5 – 6.5mm.
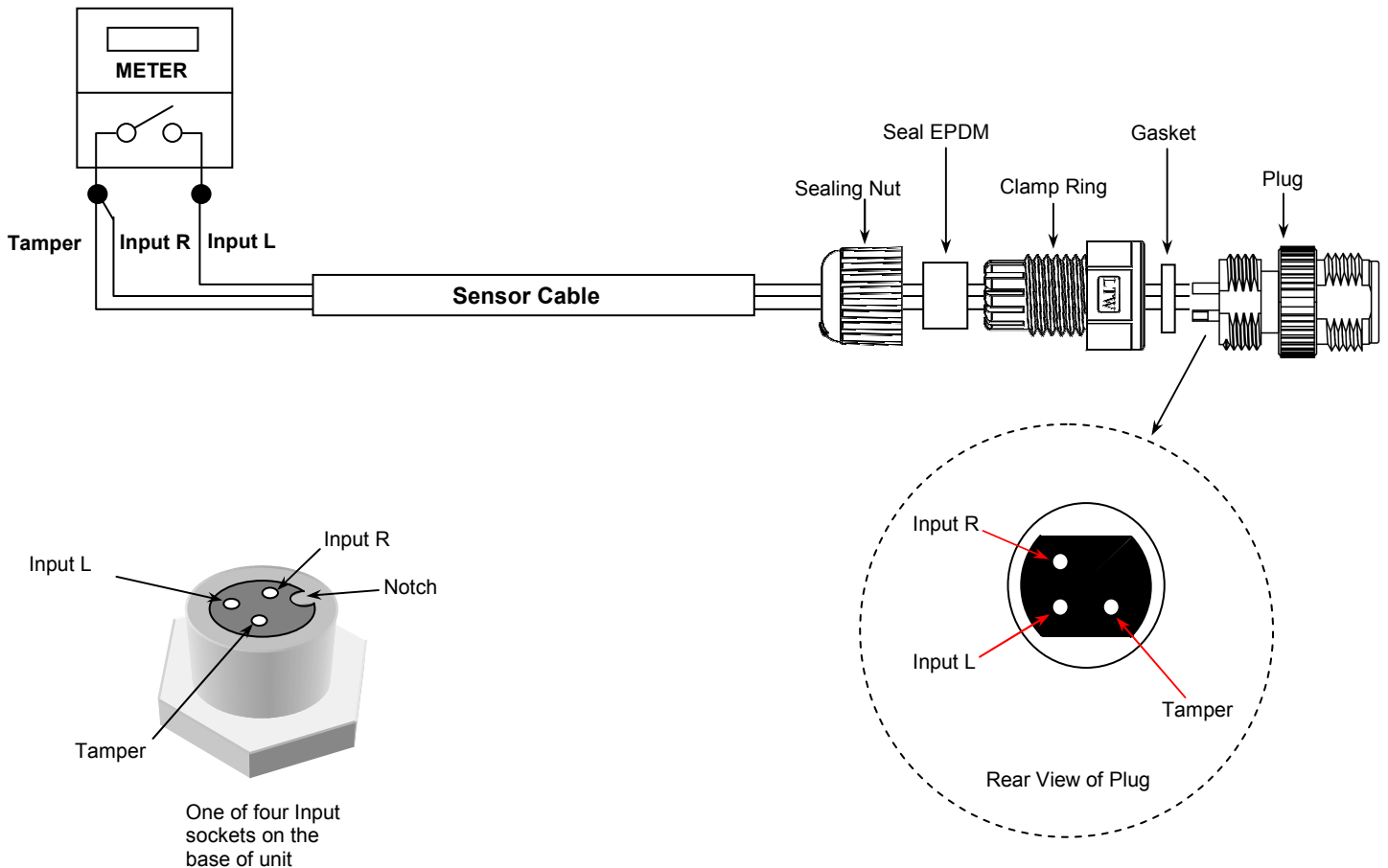
Figure 2.3   Typical water meter sensor connections

3. WORKING WITH A DATACELL D

3.1. Exiting Hibernation

To allow transport and storage of the DataCell D, without concern of generating unnecessary logging activity, the unit is placed into hibernation prior to leaving the factory. To exit hibernation hold the DataCell D in a position whereby you can view the activity of the LED's within the infrared communications port and follow the following steps:-

1. Hold the magnet in the location shown in figure 3.2.1 and observe that the Yellow LED is lit. Keep the magnet in place for approximately 10 seconds until the Orange LED illuminates.

2. Upon illumination of the orange LED remove the magnet from its position and hold it away from the DataCell for a period of approximately 10 seconds, at the completion of which the Red LED will illuminate.

3. Return the magnet to the original position; soon a Green LED will flash at which time you should swipe the unit three (3) times, by moving the magnet left to right across the label as shown in figure 3.2.1. This will temporarily cause the LED's to shut down before returning to the high power state with both the Green and Orange LED's Illuminated.

3.2. Waking the DataCell D

Once the DataCell D has exited Hibernation it can be woken by using the swipe magnet as follows:-
Using the Swipe Magnet from the IRC Starter Kit, swipe the magnet over the side of the unit directly in line with the IRC port using a downward swiping action, see fig 3.2.1.
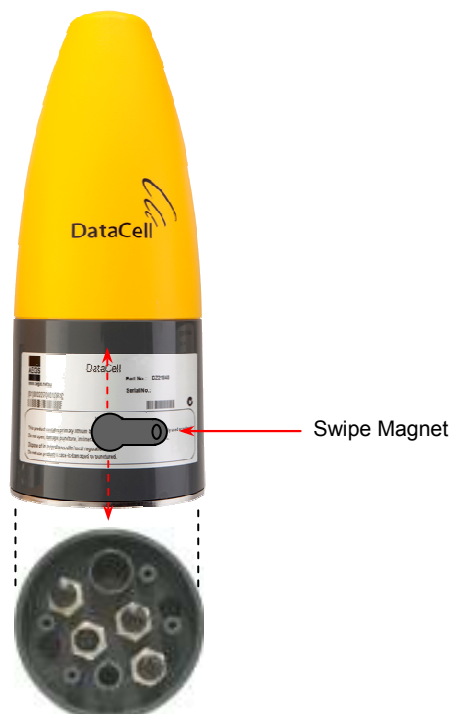

Swipe Magnet

Figure 3.2.1   Waking the DataCell D

3.3. Communicating with a DataCell D

To communicate with the DataCell D you must use the Connect software suite. Configuration changes may only be made locally via the Infrared cable. All information and instructions regarding the configuration, set up and data collection of the DataCell D can be found in the Connect User Guide which is available online at www.datacell.co.

3.4. LED indications

LED's are provided to give the user an indication of what activity the DataCell is undertaking at any given time. These LED's are visible via the infrared communications port and have various activity states as described below:-

⚫⚫ Both LED's OFF.   Unit in low power or sleep mode.

⚫🟠 Green OFF, Orange ON.   Logging disabled, Unit in High power mode.

🟢🟠 Green On, Orange ON.   Logging enabled, Unit in High power mode.

4. CARE AND MAINTENANCE

4.1. Warranty

The DataCell D is warranted against defects in materials and workmanship for a period of 12 months from the date of purchase as per the standard Aegis terms and conditions of Warranty. For purposes of warranty repair or replacement, the user is required to return the defective item together with proof of purchase to AEGIS at the address given in this section below. Aegis is not responsible for any incidental or consequential damages resulting from the breach of any express or implied warranty including damage to property and to the extent permitted by law damages for personal injury. Aegis does not assume liability or responsibility for any loss or damage resulting from the use of this device.

4.2. Maintenance and Servicing

The DataCell D contains no user-serviceable parts and any damaged or failed instruments should be returned to the manufacturer for repair. Such units should be cleaned, suitably packaged, and transported in accordance with local regulations to:

Aegis Pty Ltd.
200 Rooks Rd, Vermont, Victoria, Australia, 3133

The sender's name and return address must be supplied, together with a description of the fault.

If different from the return address, an invoicing address should also be given.

4.3. Cleaning

Warning: Potential electrostatic charging hazard.

Only wipe product with a damp cloth.

Do not wipe with solvent.

5. SPECIFICATIONS

5.1. Inputs

Up to 4 unpowered floating Voltage free inputs.

Short cable mode: - Max input cable length 4 metres

Long cable mode: - Max input cable length 10 metres

5.2. Communications

Serial: Infrared interface

5.3. Logging

Memory:	2 million records
Alarms:	Low or Zero usage in a period
	High usage in a period
	Return of state
	Tamper detection
Clock:	Real time with time and date stamp

5.4. Electrical

Inputs:	Maximum output current 270µA DC @ 2.7V DC
Power Source:	1 x primary lithium battery cell (3.6V@14AH)
Battery Life:	Typically 10 years at 1 channel, 5 minute logging

5.5. Physical

Dimensions	88mmØ x 170mm
Weight	470 grams

5.6. Environmental

IP Rating:	IEC 529 (1989): IP68
	AS 1939-1990: IP68
Temperature:	
Operating Temperature:	-20°C to +55°C
Storage Temperature:	Preferably not exceeding 30ºC
Pressure:	80 kPa to 110 kPa

5.7. Applicable Standards

IEC 529 (1989): IP68

AS 1939-1990: IP68

C-Tick

Manufactured under a Quality System complying to ISO9001 (QEC Lic.5948)

5.8. Standard Accessories

Accessory	Qty	Part No
Bracket	1	CZ21269
Screws	4	M4X20 PAN HD XR S/S
M12 Male Inline Plug	1	CZ21512
Cap M12	3	CZ21511

5.9. Optional Accessories

Accessory	Qty	Part No
IRC Starter Kit USB	1	CZ21036
M12 Male Inline Plug	4	CZ21512
Cap M12	4	CZ21511

6. OTHER PRODUCTS IN THE DATACELL RANGE

DataCell Atx

The top of the range DataCell Atx provides monitoring and recording of analogue and digital signals. Equipped with 4 fully programmable inputs and two-way GSM/GPRS communications the highly flexible DataCell Atx is the cornerstone of any remote monitoring and reporting application.

DataCell Rtx

Widely used in utility metering and industrial logging and alarming applications, the DataCell Rtx was the first unit of the DataCell range to deliver superior features such as two-way communications for remote programming and live time updates. With a storage capacity of 2 million records, the always reliable DataCell Rtx delivers "set and forget" monitoring in all environments.

DataCell Rtx Ex

Independently certified for IEC Ex Zone 0 applications, the DataCell Rtx Ex delivers all of the features of a standard Rtx with the additional benefit of being certified for installation within hazardous zones without the need for additional and expensive protective barriers.

DataCell GPS

Specifically developed for customers looking to track the time date and location where water tankers extract from hydrants, the DataCell GPS delivers GPS location data with pin point accuracy.

DataCell L

Intrinsically safe for use in sewers the DataCell L provides early warning of rising levels in sewer and other level monitoring applications. Optioned with 2 or 3 floats the DataCell L is designed to give sufficient warning of a surge before an expensive clean up is required.

NOTES:-