Notices

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Safety Notices

CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Agilent 1260 Infinity II DataStream User Manual
In This Guide...

This manual covers the
• G7825A Agilent 1260 Infinity II DataStream

1 Introduction to the DataStream

This chapter gives an introduction to the DataStream

2 Site Requirements and Specifications

This chapter provides information on environmental requirements, physical and performance specifications.

3 Maintenance and Troubleshooting

This chapter gives an overview about the troubleshooting and provides general information on maintenance.

4 Appendix

This chapter provides safety and other general information
1
Introduction to the DataStream

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Introduction to the DataStream

The Agilent 1260 Infinity II DataStream is a high performance data acquisition unit. As part of a system, interfaced to Agilent GPC/SEC Software or Cirrus software it is designed to meet the exacting acquisition, display and analysis requirements of chromatography applications.

Figure 1. Agilent 1260 DataStream (Front & Rear)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Channel start button</td>
<td>6</td>
<td>PL-CAN connector (not used)</td>
</tr>
<tr>
<td>2</td>
<td>Status LEDs</td>
<td>7</td>
<td>Aux I/O connector</td>
</tr>
<tr>
<td>3</td>
<td>Channel analogue input</td>
<td>8</td>
<td>Power Switch</td>
</tr>
<tr>
<td>4</td>
<td>CTR connector</td>
<td>9</td>
<td>Voltage selector</td>
</tr>
<tr>
<td>5</td>
<td>RS232 connector</td>
<td>10</td>
<td>Power inlet</td>
</tr>
</tbody>
</table>
Connections

Analogue Inputs

The analogue input cables are intended for connection between the DataStream and any detector or other voltage source with an output range of ±1V or smaller. Connect the red wire to the positive output terminal and the black wire to the negative output terminal of the source. Do not connect the screen of the cable to the source.

The 3-pin connector on the analogue cable should be inserted into the desired channel input socket on the DataStream. Unused channels can be left unconnected.

RS232 Serial Cable

Connect the serial cable from the 9-pin RS232 socket on the DataStream to a free serial port on the PC on which the Cirrus software has been installed.

AUX I/O

This connector provides external channel start facilities and contact-closure relay outputs:

1. GND
2. START CHANNEL 2 (active low)
3. START CHANNEL 4 (active low)
4. RELAY 4 COMMON
5. RELAY 3 COMMON
6. RELAY 2 COMMON
7. RELAY 1 COMMON
8. +5 VOLTS
9. START CHANNEL 1 (active low)
10. START CHANNEL 3 (active low)
11. GND
12. RELAY 4 N.O.
13. RELAY 3 N.O.
14. RELAY 2 N.O.
15. RELAY 1 N.O.
To trigger a channel using an external contact closure, simply connect one side of the switch to one of the GND pins and the other side to the desired START CHANNEL pin. Data collection will start as soon as the switch is closed. Alternatively a TTL-compatible logic LOW signal can be used to trigger a channel.

**PL-CAN**  Rf is connector are reserved for future use

**CTR**  Rf is connector is reserved for use by Agilent service personnel only
Using the Module

Power Switch

The power switch is located on the power inlet situated on the rear panel of the instrument. Press the ‘I’ symbol to switch ON or the ‘O’ symbol to switch OFF.

Channel Start Buttons

A data acquisition run on any channel may be started manually by pressing the associated channel start button after the DataStream has been initialised by the Cirrus software.

Power-Up Sequence

When the instrument is turned on the status LED on the front panel will briefly become green. It will then go amber whilst the instrument performs a range of internal self-test and calibration tasks. These can take up to 1 minute after which the status LED will become green again, indicating that the instrument is ready to collect data. If an error occurs during the internal tests the LED will remain amber and the 4 channel run LEDs will flash. If this happens, cycle the power to retry the internal tests.
1 Introduction to the DataStream
This chapter provides information on environmental requirements, physical and performance specifications.
Site Requirements

A suitable environment is important to ensure optimal performance of the instrument.

Power Considerations

Check the operating voltage of your instrument on the IEC inlet fuse holder on rear of unit.

WARNING

Hazard of electrical shock or damage of your instrumentation can result, if the devices are connected to a line voltage higher than specified.  
➔ Connect your instrument to the specified line voltage only.

WARNING

The module is partially energized when switched off, as long as the power cord is plugged in.

Repair work at the module can lead to personal injuries, e.g. electrical shock, when the cover is opened and the module is connected to power.

➔ Always unplug the power cable before opening the cover.

➔ Do not connect the power cable to the instrument while the covers are removed.

WARNING

Inaccessible power plug.

In case of emergency it must be possible to disconnect the instrument from the power line at any time.

➔ Make sure the power connector of the instrument can be easily reached and unplugged.

➔ Provide sufficient space behind the power socket of the instrument to unplug the cable.
Power Cords

Country-specific power cords are available for the module. The female end of all power cords is identical. It plugs into the power-input socket at the rear. The male end of each power cord is different and designed to match the wall socket of a particular country or region.

Agilent makes sure that your instrument is shipped with the power cord that is suitable for your particular country or region.

**WARNING**

**Absence of ground connection**

*The absence of ground connection can lead to electric shock or short circuit.*

➔ Never operate your instrumentation from a power outlet that has no ground connection.

**WARNING**

**Unintended use of supplied power cords**

*Using power cords for unintended purposes can lead to personal injury or damage of electronic equipment.*

➔ Never use a power cord other than the one that Agilent shipped with this instrument.

➔ Never use the power cords that Agilent Technologies supplies with this instrument for any other equipment.

➔ Never use cables other than the ones supplied by Agilent Technologies to ensure proper functionality and compliance with safety or EMC regulations.

**WARNING**

**Power cords**

*Solvents may damage electrical cables.*

➔ Prevent electrical cables from getting in contact with solvents.

➔ Exchange electrical cables after contact with solvents.
2 Site Requirements and Specifications

Site Requirements

Bench Space

The module dimensions and weight (see Table 1) allow you to place the module on almost any desk or laboratory bench. Ensure that the power switch & appliance power connector situated at the rear of the unit remain easily accessible at all times.

Environment

Your module will work within the specifications at ambient temperatures and relative humidity described in Table 1.

Avoid exposure to direct sunlight and other sources of temperature fluctuations (e.g. draughts).

Do not allow the unit to come into contact with hazardous or dangerous chemicals.

Do not use this equipment in hazardous atmospheres or with hazardous materials for which it was not designed.

NOTE

This module is designed to operate in a typical electromagnetic environment, i.e. where RF transmitters such as mobile telephones may not be used in close proximity.
Physical Specifications

Table 1 Agilent 1260 Infinity II DataStream Physical Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Specification</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>2.5kg (5.5lbs)</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>90x160x255 mm (3.5x6.3x10 inches)</td>
<td></td>
</tr>
<tr>
<td>Line voltage</td>
<td>100-120 or 220-240 VAC ±10%</td>
<td>Wide ranging voltage</td>
</tr>
<tr>
<td>Line frequency</td>
<td>50 or 60 Hz, ± 5 %</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>50 VA (max)</td>
<td></td>
</tr>
<tr>
<td>Ambient operating temperature</td>
<td>15–30 °C (59–86 °F)</td>
<td></td>
</tr>
<tr>
<td>Ambient non-operating</td>
<td>-40 – 70 °C (-40 – 158 °F)</td>
<td></td>
</tr>
<tr>
<td>temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>40-80% r.h</td>
<td>Non-condensing</td>
</tr>
<tr>
<td>Operating altitude</td>
<td>Up to 2000 m (6562 ft)</td>
<td></td>
</tr>
<tr>
<td>Non-operating altitude</td>
<td>Up to 4600 m (15092 ft)</td>
<td>For storing the module</td>
</tr>
<tr>
<td>Safety standards:</td>
<td>Installation category II, Pollution</td>
<td>For indoor use only.</td>
</tr>
<tr>
<td>IEC, EN, CSA, UL</td>
<td>degree 2</td>
<td></td>
</tr>
</tbody>
</table>
## Site Requirements and Specifications

### Performance Specifications

**Table 2**  
Agilent 1260 Infinity II DataStream (G7825A)  
Performance Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Specification</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Channels</td>
<td>Four</td>
<td></td>
</tr>
<tr>
<td>Input range</td>
<td>±1.28V</td>
<td>Differentialh</td>
</tr>
<tr>
<td>Common mode range</td>
<td>±8V</td>
<td>w.r.t to earthh</td>
</tr>
<tr>
<td>Input Impedence</td>
<td>&gt;10MΩ</td>
<td>DP output</td>
</tr>
<tr>
<td>Resolution</td>
<td>24-bit Delta-Sigma ADCC</td>
<td></td>
</tr>
<tr>
<td>Sampling Rate</td>
<td>10HzHz (maxx)</td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td>1µV p-p typical, 5µV p-p max</td>
<td>0V I/P, 1Hz rate, ±1.28V range</td>
</tr>
<tr>
<td>Drift</td>
<td>2ppm/°C typical, 15ppm/°C max</td>
<td>0V I/P, ±1.28V range</td>
</tr>
<tr>
<td>Linearity</td>
<td>±2bits max</td>
<td>±1.28V range</td>
</tr>
<tr>
<td>Full Scale Accuracy</td>
<td>±2mV max</td>
<td>±1.28V I/PP</td>
</tr>
<tr>
<td>Offset</td>
<td>&lt; ±1mV</td>
<td>0V I/P, 1Hz rate, ±1.28V range</td>
</tr>
</tbody>
</table>
3  
Maintenance and Troubleshooting

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Cleaning the Module 21

This chapter provides general information on maintenance and repair of the module.
Introduction to Maintenance

The module is designed for easy maintenance. Maintenance can be done from the front with module in place in the system.

**NOTE**

There are no serviceable parts inside.

Do not open the module.

**NOTE**

The following fuses are fitted: 2x F100mA H 250V
Warnings and Cautions

**WARNING**
Module is partially energized when switched off, as long as the power cord is plugged in.

Risk of stroke and other personal injury. Repair work at the module can lead to personal injuries, e.g. shock hazard, when the module cover is opened and the instrument is connected to power.

➔ Never perform any adjustment, maintenance or repair of the module with the top cover removed and with the power cord plugged in.

➔ The security lever at the power input socket prevents that the module cover is taken off when line power is still connected. Never plug the power line back in when cover is removed.

**WARNING**
Sharp metal edges

Sharp-edged parts of the equipment may cause injuries.

➔ To prevent personal injury, be careful when getting in contact with sharp metal areas.

**WARNING**
Toxic, flammable and hazardous solvents, samples and reagents

The handling of solvents, samples and reagents can hold health and safety risks.

➔ When working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the vendor, and follow good laboratory practice.

➔ The volume of substances should be reduced to the minimum required for the analysis.

➔ Do not operate the instrument in an explosive atmosphere.
CAUTION  Electronic boards and components are sensitive to electrostatic discharge (ESD). ESD can damage electronic boards and components.

➔ Be sure to hold the board by the edges, and do not touch the electrical components. Always use ESD protection (for example, an ESD wrist strap) when handling electronic boards and components.

CAUTION  Safety standards for external equipment

➔ If you connect external equipment to the instrument, make sure that you only use accessory units tested and approved according to the safety standards appropriate for the type of external equipment.
Cleaning the Module

To keep the module case clean, use a soft cloth slightly dampened with water, or a solution of water and mild detergent.

**WARNING** Liquid dripping into the electronic compartment of your module can cause shock hazard and damage the module

➔ Do not use an excessively damp cloth during cleaning.

➔ Drain all solvent lines before opening any connections in the flow path.

---

**Storage of the module**

**NOTE** In case the module is not used for some time (stored), then fill the flow cell (sample and reference side) with isopropanol.
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4 Appendix

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   General Safety Information 24
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This chapter provides safety and other general information.
General Safety Information

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies assumes no liability for the customer’s failure to comply with these requirements.

**Warning**
Ensure the proper usage of the equipment.
The protection provided by the equipment may be impaired.

⇒ The operator of this instrument is advised to use the equipment in a manner as specified in this manual.

**Safety Standards**

This is a Safety Class I instrument (provided with terminal for protective earthing) and has been manufactured and tested according to international safety standards.

**General**

Do not use this product in any manner not specified by the manufacturer. The protective features of this product may be impaired if it is used in a manner not specified in the operation instructions.
Before Applying Power

**WARNING** Wrong voltage range, frequency or cabling

Personal injury or damage to the instrument

➔ Verify that the voltage range and frequency of your power distribution matches to the power specification of the individual instrument.

➔ Never use cables other than the ones supplied by Agilent Technologies to ensure proper functionality and compliance with safety or EMC regulations.

➔ Make all connections to the unit before applying power.

---

**NOTE**

Note the instrument's external markings described under “Safety Symbols” on page 28.

---

Ground the Instrument

**WARNING** Missing electrical ground

Electrical shock

➔ If your product is provided with a grounding type power plug, the instrument chassis and cover must be connected to an electrical ground to minimize shock hazard.

➔ The ground pin must be firmly connected to an electrical ground (safety ground) terminal at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.
Do Not Operate in an Explosive Atmosphere

**WARNING**

Presence of flammable gases or fumes

Explosion hazard

➔ Do not operate the instrument in the presence of flammable gases or fumes.

---

Do Not Remove the Instrument Cover

**WARNING**

Instrument covers removed

Electrical shock

➔ Do Not Remove the Instrument Cover

➔ Only Agilent authorized personnel are allowed to remove instrument covers. Always disconnect the power cables and any external circuits before removing the instrument cover.

---

Do Not Modify the Instrument

Do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Agilent Sales and Service Office for service and repair to ensure that safety features are maintained.

---

In Case of Damage

**WARNING**

Damage to the module

Personal injury (for example electrical shock, intoxication)

➔ Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.
Solvents

**WARNING**

Toxic, flammable and hazardous solvents, samples and reagents

The handling of solvents, samples and reagents can hold health and safety risks.

➔ When working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the vendor, and follow good laboratory practice.

➔ The volume of substances should be reduced to the minimum required for the analysis.

➔ Do not operate the instrument in an explosive atmosphere.

➔ Never exceed the maximal permissible volume of solvents (6 L) in the solvent cabinet.

➔ Do not use bottles that exceed the maximum permissible volume as specified in the usage guideline for the Agilent 1200 Infinity Series Solvent Cabinets.

➔ Arrange the bottles as specified in the usage guideline for the solvent cabinet.

➔ A printed copy of the guideline has been shipped with the solvent cabinet, electronic copies are available on the Internet.

➔ Ground the waste container.

➔ The residual free volume in the appropriate waste container must be large enough to collect the waste liquid.

➔ Check the filling level of the waste container regularly.

➔ To achieve maximal safety, check the correct installation regularly.

➔ Do not use solvents with an auto-ignition temperature below 200 °C (392 °F).
### Safety Symbols

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Triangle]</td>
<td>The apparatus is marked with this symbol when the user should refer to the instruction manual in order to protect risk of harm to the operator and to protect the apparatus against damage.</td>
</tr>
<tr>
<td>![Lightning bolt]</td>
<td>Indicates dangerous voltages.</td>
</tr>
<tr>
<td>![Ground symbol]</td>
<td>Indicates a protected ground terminal.</td>
</tr>
<tr>
<td>![Hot symbol]</td>
<td>The apparatus is marked with this symbol when hot surfaces are available and the user should not touch it when heated up.</td>
</tr>
<tr>
<td>![Sun]</td>
<td>Cooling unit is designed as vapor-compression refrigeration system. Contains fluorinated greenhouse gas (refrigerant) according to the Kyoto protocol. For specifications of refrigerant, charge capacity, carbon dioxide equivalent (CDE), and global warming potential (GWP) see instrument label.</td>
</tr>
<tr>
<td>![CE]</td>
<td>Confirms that a manufactured product complies with all applicable European Community directives. The European Declaration of Conformity is available at: <a href="http://regulations.corporate.agilent.com/DoC/search.htm">http://regulations.corporate.agilent.com/DoC/search.htm</a></td>
</tr>
<tr>
<td>![Manufacturing date]</td>
<td>Manufacturing date.</td>
</tr>
<tr>
<td>![Power symbol]</td>
<td>Power symbol indicates On/Off. The apparatus is not completely disconnected from the mains supply when the power switch is in the Off position.</td>
</tr>
<tr>
<td>![Heart symbol]</td>
<td>Pacemaker Magnets could affect the functioning of pacemakers and implanted heart defibrillators. A pacemaker could switch into test mode and cause illness. A heart defibrillator may stop working. If you wear these devices keep at least 55 mm distance to magnets. Warn others who wear these devices from getting too close to magnets.</td>
</tr>
</tbody>
</table>
Appendix 4

General Safety Information

Magnetic field
Magnets produce a far-reaching, strong magnetic field. They could damage TVs and laptops, computer hard drives, credit and ATM cards, data storage media, mechanical watches, hearing aids and speakers. Keep magnets at least 25 mm away from devices and objects that could be damaged by strong magnetic fields.

Indicates a pinching or crushing hazard

Indicates a piercing or cutting hazard.

Table 23 Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Magnetic field symbol" /></td>
<td>Magnetic field Magnets produce a far-reaching, strong magnetic field. They could damage TVs and laptops, computer hard drives, credit and ATM cards, data storage media, mechanical watches, hearing aids and speakers. Keep magnets at least 25 mm away from devices and objects that could be damaged by strong magnetic fields.</td>
</tr>
<tr>
<td><img src="image" alt="Pinching or crushing hazard symbol" /></td>
<td>Indicates a pinching or crushing hazard</td>
</tr>
<tr>
<td><img src="image" alt="Piercing or cutting hazard symbol" /></td>
<td>Indicates a piercing or cutting hazard.</td>
</tr>
</tbody>
</table>

**A WARNING**

alerts you to situations that could cause physical injury or death.

➔ Do not proceed beyond a warning until you have fully understood and met the indicated conditions.

**A CAUTION**

alerts you to situations that could cause loss of data, or damage of equipment.

➔ Do not proceed beyond a caution until you have fully understood and met the indicated conditions.
Waste Electrical and Electronic Equipment (WEEE) Directive

Abstract


NOTE

This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category:

With reference to the equipment types in the WEEE Directive Annex I, this product is classed as a Monitoring and Control Instrumentation product.

NOTE

Do not dispose of in domestic household waste

To return unwanted products, contact your local Agilent office, or see http://www.agilent.com for more information.
Radio Interference

Cables supplied by Agilent Technologies are screened to provide optimized protection against radio interference. All cables are in compliance with safety or EMC regulations.

Test and Measurement

If test and measurement equipment is operated with unscreened cables, or used for measurements on open set-ups, the user has to assure that under operating conditions the radio interference limits are still met within the premises.
Sound Emission

Manufacturer’s Declaration

This statement is provided to comply with the requirements of the German Sound Emission Directive of 18 January 1991.

This product has a sound pressure emission (at the operator position) < 70 dB.

- Sound Pressure $L_p < 70 \text{ dB (A)}$
- At Operator Position
- Normal Operation
- According to ISO 7779:1988/EN 27779/1991 (Type Test)
Agilent Technologies on Internet

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http://www.agilent.com
In This Book

This manual contains information on the Agilent 1260 Infinity II DataStream (G7825A)
The manual describes the following:
• General information,
• Introduction
• Site requirements
• Unpacking
• Using the module
• Troubleshooting and diagnostics
• Safety information