

Gryphon™ I GFS4500

QUICK REFERENCE GUIDE



Fixed Mount Area Imager
Bar Code Reader

 **DATALOGIC**

Datalogic S.r.l.

Via S. Vitalino, 13
40012 Calderara di Reno (BO)
Italy
Tel. +39 051 3147011
Fax +39 051 3147205

©2023 Datalogic S.p.A. and /or its affiliates.

All rights reserved. Without limiting the rights under copyright, no part of this documentation may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means, or for any purpose, without the express written permission of Datalogic S.p.A. and/or its affiliates.

Owners of Datalogic products are hereby granted a non-exclusive, revocable license to reproduce and transmit this documentation for the purchaser's own internal business purposes. Purchaser shall not remove or alter any proprietary notices, including copyright notices, contained in this documentation and shall ensure that all notices appear on any reproductions of the documentation.

Electronic versions of this document may be downloaded from the Datalogic website (www.datalogic.com). If you visit our website and would like to make comments or suggestions about this or other Datalogic publications, please let us know via the "Contact" page.

Disclaimer

Datalogic has taken reasonable measures to provide information in this manual that is complete and accurate, however, Datalogic shall not be liable for technical or editorial errors or omissions contained herein, nor for incidental or consequential damages resulting from the use of this material. Datalogic reserves the right to change any specification at any time without prior notice.

Trademarks

Datalogic and the Datalogic logo are registered trademarks of Datalogic S.p.A. in many countries, including the U.S.A. and the E.U.

Gryphon is a trademark of Datalogic S.p.A. and/or its affiliates, registered in the U.S. All other trademarks and brands are property their respective owners.

Patents

See www.patents.datalogic.com for patent list.

See the Regulatory Addendum included with your product for additional regulatory, safety and legal information.

TABLE OF CONTENTS

END USER SOFTWARE LICENSE AGREEMENT.....	V
Software Product Policy	X
Setting Up the Reader	2
Parts of the Reader	3
Attaching and Retaining the USB Cable (GFS4520 Model Only)	4
Connecting to the Host Interface.....	6
Using the Gryphon™ I GFS4500	7
Selecting the Interface Type	9
USB Interface (GFS4520 & GFS4590 only).....	10
Country Mode	12
Programming.....	15
Using Programming Bar Codes	15
Configure Other Settings	16
Resetting Product Defaults	16
NUMLOCK.....	17
Reading Parameters.....	18
Aiming System	18
Good Read Green Spot Duration	18
Operating Modes	19
Pick Mode	21
Multiple Label Reading	21
Energy Saving.....	22
Energy Saving = Medium	22
Energy Saving = Max	22
Performance Preset	23
Technical Specifications	24
RS-232 Electrical Connections (GFS4550 only).....	26
Input connection - Typical layout	27
Output connection - Typical layout.....	29
GFS4500 Dimensions.....	30
LED and Beeper Indications	31
Button and LED Status	31
Indicators.....	31
Troubleshooting	33
Using the GFS4400 Adapter	34
Warranty	36
Ergonomic Recommendations	37
Technical Support	38

Support Through the Website 38

Reseller Technical Support..... 38

END USER SOFTWARE LICENSE AGREEMENT

(EULA) FOR THE GRYPHON™ I GFS4500 PRODUCT SERIES

NOTICE TO END USER: BY DOWNLOADING OR INSTALLING THE SOFTWARE, OR BY USING THE DATALOGIC PRODUCT THAT INCLUDES THIS SOFTWARE, THE END USER CONSENTS TO BE BOUND BY THIS AGREEMENT. IF THE END USER DOES NOT AGREE WITH ALL OF THE TERMS OF THIS AGREEMENT, THEN DATALOGIC IS NOT WILLING TO LICENSE THE SOFTWARE AND THE END USER IS NOT ALLOWED TO DOWNLOAD, INSTALL OR USE THE SOFTWARE OR THE DATALOGIC PRODUCT---

This End User License Agreement ("EULA") is between Datalogic IP Tech S.r.l. having its registered office at Via San Vitalino 13, 40012 Calderara di Reno (Bologna), Italy ("Datalogic"), and you, either an individual or a single entity, ("End User or "You") who has purchased one or more GRYPHON™ I GFS4500 ("Datalogic Product") subject to the terms and conditions provided in any relevant purchase or sale contract. This EULA applies to the software contained in the Datalogic Product ("Embedded Software") and to any other software, to the extent applicable, offered as optional application software ("Application Software" that together with "Embedded Software" is herein referred to as "Software"). Any Open Source used in a conjunction with the Software is subject to the Open Source licenses available at the following website: <http://www.datalogic.com/oss>

1. Grant of License

- 1.1 Datalogic grants to End User, a personal, non-exclusive, non-transferable, non sub licensable, revocable, limited license to use the Software, solely on the Datalogic Product in which it is embedded or for which it is intended for use, in machine-readable form only, solely for End User's internal business purposes.
- 1.2 End Users shall not distribute, sublicense, rent, loan, lease, assign, export, re-export, resell, ship or divert or cause to be exported, re-exported, resold, shipped or diverted, directly or indirectly, the Software under this Agreement. End User shall not, and shall not permit others to: (i) modify, translate, decompile, reverse engineer, disassemble, or extract the inner workings of the Software, (ii) copy the functionality of the Datalogic Products; (iii) remove any proprietary notices, marks, labels, or logos from the Datalogic Products; (iv) rent or transfer all or some of the Software to any other party without Datalogic's prior written consent.
- 1.3 Title to the licensed Software shall be and remain with Datalogic or the third party from whom Datalogic has obtained a license right. This Agreement does not grant to End User any intellectual property rights. As used in this Agreement the term "purchase" or its equivalent when applied to the Software shall mean "acquire under license". End User is not entitled to receipt or use of the source code of any licensed Software.
- 1.4 Portions of the Datalogic Product are protected by the relevant and applicable patent and copyright laws, international treaty provisions, and other applicable laws. Therefore, End User must treat the Datalogic Product like any other copyrighted material (e.g., a book or musical recording) except that End User may make one copy of the Software solely for back-up purposes. Unauthorized duplication of the Software constitutes copyright infringement.
- 1.5 Any use of the Software outside of the conditions set forth herein is strictly prohibited and will be deemed a breach of this Agreement resulting in immediate termination of this Agreement. In the event of

a breach of this Agreement, Datalogic will be entitled to all available remedies at law or in equity (including but not limiting to immediate termination of the license without notice, immediate injunctive relief and repossession of all Datalogic Products).

- 1.6 Without prejudice of the foregoing, End User grants to Datalogic and its independent accountants or consultants the right to examine End User's books, records and accounts during End User's normal business hours to verify compliance with this Agreement. In the event such audit discloses non-compliance with this Agreement, Datalogic shall be entitled to immediately terminate the Agreement, request End User to promptly pay all (additional) license fees due and any further damages, if any.

2. License Fee

License fees shall be due by End User to Datalogic according to the terms provided for in the relevant contract for the purchase of the Datalogic Product.

3. Termination

Without prejudice to any other rights or remedies Datalogic may have, Datalogic may terminate this Agreement if End User fails to comply with the terms and conditions of this Agreement. Datalogic may terminate this Agreement by offering you a superseding Agreement for the Software or any replacement or modified version of or upgrade to the Software and conditioning your continued use of the Software or such replacement, modified or upgraded version on your acceptance of such superseding Agreement. In addition, either party may terminate this Agreement at any time. Subject to the foregoing, termination shall be effective upon notice to the other party. In the event that this Agreement terminates for any reason, End User's license to use the Software will immediately terminate, and End User must immediately stop using the Software, destroy all copies of the Software and all of its component parts, and, upon request, provide an affidavit certifying your compliance with the foregoing. The provisions of Sub-sections 1.2, 1.3, 1.4, 1.5, 4, 5, 6, 8, and 11 shall survive termination of this Agreement.

4. Limited Warranty

Datalogic warrants that, under normal use and operation, the Software will conform substantially to the applicable Datalogic Product documentation for the period specified in the same, provided that the Software is used with the Datalogic Product. Datalogic's entire liability and End User's sole and exclusive remedy for any breach of the foregoing limited warranty will be, at Datalogic's option, the provision of a downloadable patch or replacement software.

Datalogic does not warrant (i) that Software will meet End User's requirements; (ii) that Software will be uninterrupted or defect error free; (iii) any non conformity derived from unauthorized use, and/or improper installation or repair not in compliance with Datalogic Product documentation. End User agrees that the existence of such non conformities or errors and Datalogic's inability to remedy such errors shall not constitute a breach of this Agreement.

EXCEPT AS PROVIDED IN THIS AGREEMENT, THE DATALOGIC PRODUCT IS PROVIDED "AS IS" AND DATALOGIC MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, WRITTEN OR ORAL, WITH RESPECT TO THE DATALOGIC PRODUCT OR SOFTWARE, AND SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

5. Limitation of Liability

EXCEPT AS PROVIDED IN THIS AGREEMENT, NEITHER DATALOGIC NOR ITS LICENSORS SHALL BE LIABLE FOR ANY CLAIMS AGAINST END USER BY ANY OTHER PARTY. IN NO EVENT SHALL DATALOGIC'S LIABILITY FOR DAMAGES, IF ANY, WHETHER BASED UPON CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, STRICT LIABILITY, WARRANTY, OR ANY OTHER BASIS, EXCEED THE PRICE OR FEE PAID BY END USER FOR THE DATALOGIC PRODUCT. UNDER NO CIRCUMSTANCES SHALL DATALOGIC OR ITS LICENSORS BE LIABLE TO END USER OR ANY THIRD PARTY FOR LOST PROFITS, LOST DATA, INTERRUPTION OF BUSINESS OR SERVICE, OR FOR ANY OTHER SPECIAL, CONSEQUENTIAL, CONTINGENT, INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY, OR OTHER SIMILAR DAMAGES, EVEN IF DATALOGIC OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. END USER MUST BRING ANY ACTION UNDER THIS AGREEMENT WITHIN 12 (TWELVE) MONTHS AFTER THE CAUSE OF ACTION ARISES.

6. Indemnification

To the maximum extent permitted by law, End User agrees to defend, indemnify and hold harmless Datalogic, its affiliates and their respective directors, officers, employees and agents from and against any and all claims, actions, suits or proceedings, as well as any and all losses, liabilities, damages, costs and expenses (including reasonable attorney's fees) arising out of or accruing from or related to Licensee's failure to comply with the terms of this Agreement, including but not limited to (1) non compliance with any applicable laws or regulations with Datalogic product documentation, (2) unauthorized use or disclosure of Software, and (3) use of Software in combination with software, hardware, systems, or other items not provided by Datalogic.

7. Support

End User may request support for Software from Datalogic at Datalogic's standard support fees and under Datalogic's standard support terms and conditions in effect at the time the support is requested.

8. Government Restricted Rights; International Use

- 8.1 Use, duplication, or disclosure of the Software by the U.S. Government is subject to the restrictions for computer software developed at private expense as set forth in the U.S. Federal Acquisition Regulations at FAR 52.227-14(g), or 52.227-19 or in the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013(c)(1)(ii), whichever is applicable.
- 8.2 If End User is using the Datalogic Product outside of the United States, End User must comply with the applicable local laws of the country in which the Datalogic Product is used and with U.S. export control laws. Without prejudice of the foregoing, the End User agrees to not export or re-export the Software, any part thereof, or any process or service that is the direct product of the Software to any country, person or entity subject to U.S. export restrictions. End User specifically agrees not to export or re-export any of the Software: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services or to any national of any such country, wherever located, who intends to transmit or transport the Software back to such country; (ii) to any person or entity who you know or have reason to know will utilize the Software in the design, development or production of nuclear, chemical or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government. End User warrants and represents that neither the U.S. Commerce Department, Bureau of Export

Administration nor any other U.S. federal agency has suspended, revoked or denied its export privileges.

9. Third Party Software

The Datalogic Product may contain one or more items of third party software which use is governed by separate third party license, unless otherwise stated.

10. Open Source Software

Portions of the Software include or operate with Open Source software ("Open Source Software").

Open Source Software is software covered by a publicly available license governed solely under Copyright law, whereas the complete terms and obligations of such license attach to a licensee solely through the act of copying, using and/or distributing the licensed software, such obligations often include one or more of attribution obligations, distribution obligations, copyleft obligations, and intellectual property encumbrances. The use of any Open Source Software is subject to the terms and conditions of this Agreement as well as the terms and conditions of the corresponding license of each Open Source Software package. If there is a conflict between the terms and conditions of this Agreement and the terms and conditions of the Open Source Software license, the applicable Open Source Software license will take precedence. Datalogic is required to reproduce the software licenses, acknowledgments and copyright notices as provided by the authors and owners, thus, all such information is provided in its native language form, without modification or translation. Please reference and review the above mentioned information to identify which Open Source Software packages have source code provided or available.

11. Notices

All notices required or authorized under this Agreement shall be given in writing, and shall be effective when received, with evidence of receipt. Notices to Datalogic shall be sent to the attention of Datalogic IP Tech S.r.l., Legal & IP Department, Via San Vitalino 13, 40012 Calderara di Reno (Bologna), Italy, or such other address as may be specified by Datalogic in writing.

12. General Provisions

- 12.1 Entire Agreement; Amendment. This document contains the entire agreement between the parties relating to use of the Datalogic Products and the licensing of the Software and supersedes all prior or contemporaneous agreements, written or oral, between the parties concerning the use of the Datalogic Products and licensing of the Software. This Agreement may not be changed, amended, or modified except by written document signed by Datalogic.
- 12.2 Waiver. A party's failure to enforce any of the terms and conditions of this Agreement shall not prevent the party's later enforcement of such terms and conditions.
- 12.3 Governing Law; Venue: End User agrees to the application of the laws of the country in which End User obtained the license to govern, interpret, and enforce all of End User's and Datalogic's respective rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles. The United Nations Convention on Contracts for the International Sale of Goods does not apply.

All rights, duties, and obligations are subject to the courts of the country in which End User obtained the license. For licenses granted by Licensee who operates in the countries specified below, the following terms apply.

For Americas:

This Agreement is governed by the laws of the State of Oregon. This Agreement and the rights of the parties hereunder shall be governed by and construed in accordance with the laws of the State of Oregon U.S.A, without regard to the rules governing conflicts of law. The state or federal courts of the State of Oregon located in either Multnomah or Lane counties shall have exclusive jurisdiction over all matters regarding this Agreement, except that Datalogic shall have the right, at its absolute discretion, to initiate proceedings in the courts of any other state, country, or territory in which End User resides, or in which any of End User's assets are located. In the event an action is brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, both at trial and on appeal.

For Europe, Middle East and Africa:

This Agreement is governed by the laws of Italy. This Agreement and the rights of the parties hereunder shall be governed by and construed in accordance with the laws of Italy, without regard to the rules governing conflicts of law. Italian Court of Bologna shall have exclusive jurisdiction over all matters regarding this Agreement, except that Datalogic shall have the right, at its absolute discretion, to initiate proceedings in the courts of any other state, country, or territory in which End User resides, or in which any of End User's assets are located. In the event an action is brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, both at trial and on appeal.

For Asia- Pacific Countries:

The validity, interpretation and construction of the Agreement shall be governed by and construed in accordance with Laws of the Republic of Singapore. Parties expressly disclaim the application of the United Nations Convention for International Sale of Goods.

Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre ("SIAC") in accordance with the Arbitration Rules of the Singapore International Arbitration Centre ("SIAC Rules") for the time being in force, which rules are deemed to be incorporated by reference in this clause. The seat of the arbitration shall be Singapore.

The number of arbitrators will be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties will appoint a third arbitrator who will act as chairman of the proceedings. Vacancies in the post of chairman will be filled by the president of the SIAC. Other vacancies will be filled by the respective nominating party. Proceedings will continue from the stage they were at when the vacancy occurred. If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator will be the sole arbitrator, provided that the arbitrator was validly and properly appointed. All proceedings will be conducted, including all documents presented in such proceedings, in the English language. The English language version of these terms and conditions prevails over any other language version.

12.4 Attorneys' Fees. In the event an action is brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, both at trial and on appeal.

- END -

Software Product Policy

Datalogic reserves the right to ship its products with the latest version of software/firmware available. This provides our customers with the very latest in Datalogic software technology.

The only exception to this policy is when the buyer has a signed contract with Datalogic that clearly defines the terms and conditions for making software/firmware changes in products shipped to the buyer.

To arrange for a Software Maintenance and Support Agreement please contact your Datalogic sales person.

GRYPHON™ | GFS4500

DESCRIPTION

Designed for easy integration and simple installation, the GFS4500 scan modules provide ready-to-use versatile solutions for kiosks and machine manufacturers. The GFS4500 module can be easily integrated with little effort in different enclosures from multiple sides with its small regular size and various fixing points. The "naked" version GFE4500 is ideal for tailor-made fully integrated solution.

The Gryphon GFS4500 2D scan modules are made to last with a durable design for maximum uptime. You can rely on them for both indoor and outdoor applications with the IP54 sealing, the UV protected scratch resistant output window, the wide range operating temperature and the great resistance to accidental drops, shock, and vibrations. RS-232 and USB/RS-232 models have an integrated cable while the USB models are equipped with a locking clip to prevent the USB cable from coming loose or disconnecting. The 5-year factory warranty proves the GFS4500 series has been designed to last.

The GFS4500 2D scan modules features the most advanced Megapixel sensor technology with distinctive red or white illumination technology with adjustable brightness for outstanding reading performance. The wide angle optics allows snappy scanning of any 1D and 2D barcodes and it starts reading at almost contact while offering improved motion tolerance and first pass decoding of fast-moving codes. The speedy reading of tickets, boarding passes, loyalty cards, and coupons from mobile phone displays is granted by the ultimate decoding algorithms you can count on.

Datalogic's 'Green Spot' technology coupled with a high visibility topfront LED and integrated loud beeper with adjustable intensity provide superior good-read feedback.

The GFS4500 is available in the following data interface versions:

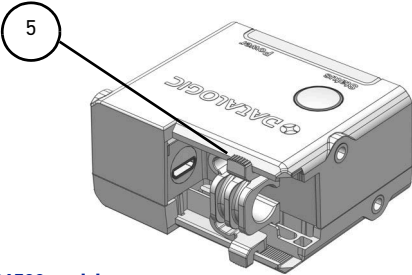
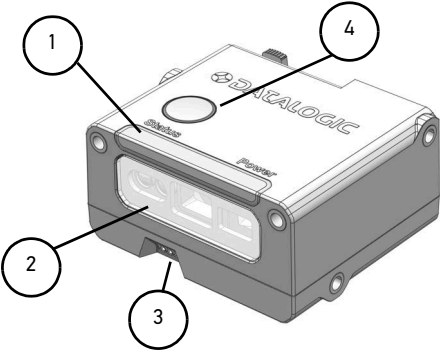
1. GFS4520: USB (micro-USB connector)
2. GFS4550: RS232 (2m straight cable DB9 connector)
3. GFS4590: USB / RS232 (10cm multi-interface connector)

SETTING UP THE READER

Follow the steps below to connect and get your reader up and communicating with its host.

1. Connect the reader to the Host as shown on page [6](#).
2. Select the Interface. (See page [9](#)).
3. Configure the Reader, see page (optional, as needed).

Parts of the Reader



GFS4520 model

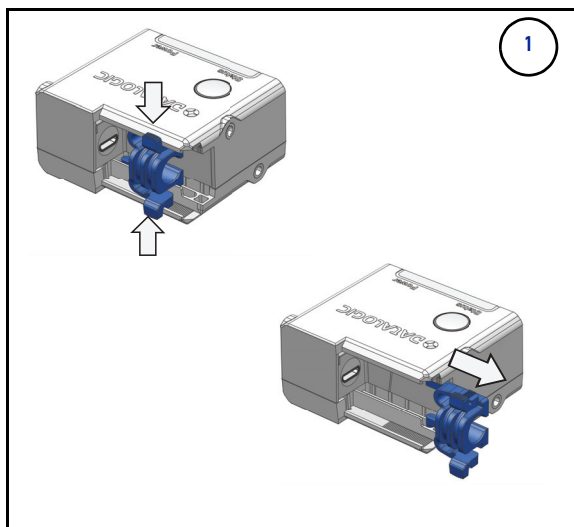
1. Power/Status LEDs	2. Scan window
3. Beeper output	4. Trigger
5. USB cable retainer (only for GFS4520)	

Attaching and Retaining the USB Cable (GFS4520 Model Only)

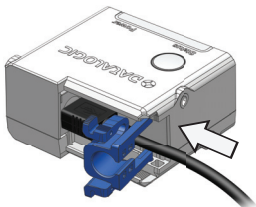
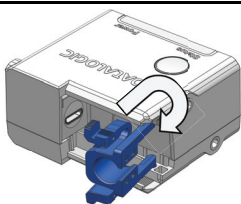
1. While pressing the retainer's locking wings, slide to pull it out of its housing.
2. Rotate the retainer clockwise and insert the USB cable.
3. Set back the retainer by rotating it counterclockwise and push until the cable is firmly locked.



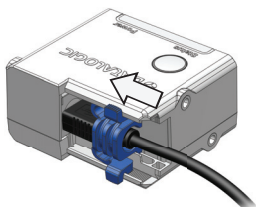
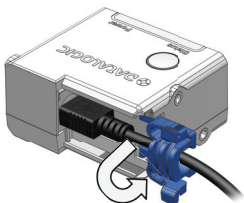
NOTE: Different microUSB cable sizes can be used. Ensure the connector shell size does not exceed 18.0 mm (w), 7.0 mm (h), 10.8 mm (d). Use only straight USB connectors, do not use right-angled connectors.



2



3



[Video Tutorial](#)

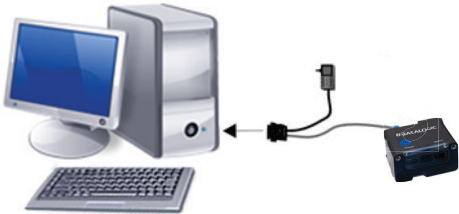
Connecting to the Host Interface

Follow the steps indicated by the pictures below to connect the reader to the Host, according to the communication cable available.

USB



RS-232



USB/RS-232 (with multi-interface connector)



NOTE: Refer to the Product Reference Guide for the list of compatible Datalogic cables.

USING THE GRYPHON™ | GFS4500

The Gryphon™ GFS4500 normally functions by capturing and decoding codes. The reader is equipped with an internal Motionix™ motion-sensing function which activates the aiming system on device motion. The intelligent aiming system indicates the field of view which should be positioned over the bar code.

Figure 1. Gryphon™ GFS4500's Aiming System

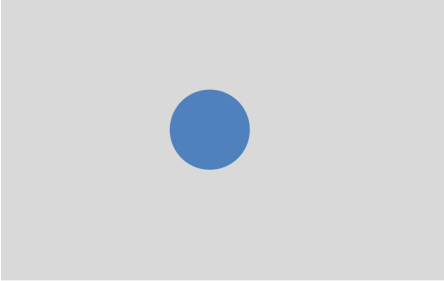
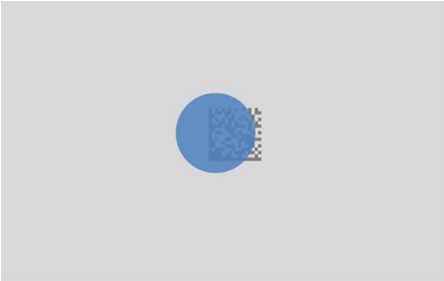
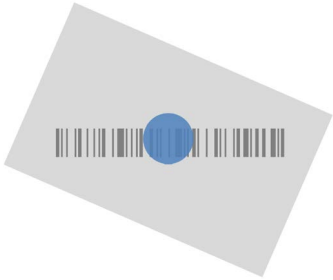


Figure 2. Relative Size and Location of Gryphon™ GFS4500's Aiming System Pattern on 2D Matrix Symbol



**Figure 3. Relative Size and Location of Gryphon™
GFS4500's Aiming System Pattern on Linear bar code**



A beam illuminates the label. The projected pattern of the aiming system will be smaller when the reader is closer to the bar code and larger when it is farther from the code. Symbolologies with smaller bars or elements (mil size) should be read closer to the unit. Symbolologies with larger bars or elements (mil size) should be read farther from the unit. If the aiming system is centered you will get a good read. Successful reading is signaled by an audible tone plus a goodread green spot LED indicator. Reference the Gryphon™ GFS4500 Product Reference Guide (PRG) on the Datalogic website for more information about this feature and other programmable settings.





**Figure 4. Relative Size and Location of Gryphon™
GFS4500's Green Spot**



SELECTING THE INTERFACE TYPE

Upon completing the physical connection between the reader and its host, proceed directly to Interface Selection below for information and programming for the interface type supported by the reader and scan the appropriate bar code to select your system's correct interface type, according to your application.

For interfaces other than those listed in this manual, see the Gryphon™ I GFS4500 Product Reference Guide (PRG), available online at www.datalogic.com.

RS-232 (GFS4550 ONLY)
 <p>Select RS232-STD RS-232 standard interface</p>
 <p>Select RS232-WN RS-232 Wincor-Nixdorf</p>
 <p>Select RS-232 OPOS RS-232 for use with OPOS/UPOS/JavaPOS</p>
 <p>Select USB-COM-STD^a USB Com to simulate RS-232 standard interface</p>

a. Download the correct USB Com driver from www.datalogic.com

USB Interface (GFS4520 & GFS4590 only)

The reader attaches directly to a USB host or a powered USB hub and is powered by it. No additional power supply is required. The reader auto-detects the USB and defaults to the USB-COM interface.

USB-KBD





Select USB-KBD
To simulate a Keyboard

USB ALTERNATE KEYBOARD






Select USB Alternate Keyboard
USB Keyboard with alternate key encoding

USB-COM
 Select USB-COM^a Simulate a serial interface
USB COMPOSITE
 Select USB-Composite Combines USB-KBD emulation and USB-COM
USB-OEM
Refer to the PRG or Aladdin for USB-OEM (for use with OPOS/UPOS/JavaPOS)

- a. Download the correct USB-COM driver from: <https://www.datalogic.com>

Country Mode

This feature specifies the country/language supported by the keyboard. Several languages are supported:

COUNTRY MODE
<div></div> <div>ENTER/EXIT PROGRAMMING MODE</div>
<div></div> <div>★ Country Mode = U.S.</div>
<div></div> <div>Country Mode = Belgium</div>
<div></div> <div>Country Mode = Croatia*</div>
<div></div> <div>Country Mode = Czech Republic*</div>
<div></div> <div>Country Mode = Denmark*</div>

COUNTRY MODE (CONTINUED)

Country Mode = France



Country Mode = French Canadian*



Country Mode = Germany



Country Mode = Hungary*



Country Mode = Italy



Country Mode = Japanese 106-key*



Country Mode = Lithuanian*

COUNTRY MODE (CONTINUED)	
	Country Mode = Norway*
	Country Mode = Poland*
	Country Mode = Portugal*
	Country Mode = Romania*
	Country Mode = Slovakia*
	Country Mode = Spain
	Country Mode = Sweden

COUNTRY MODE (CONTINUED)

Country Mode = Switzerland*



Country Mode = United Kingdom

* Supports only the interfaces listed in the Country Mode feature description.

PROGRAMMING

The reader is factory-configured with a set of standard default features. After scanning the interface bar code from the Interfaces section, you can select other options and customize your reader through use of the programming bar codes available in the Gryphon I GFS4500 Product Reference Guide (PRG).

Programming can also be performed using the Datalogic Aladdin™ Configuration application, which is downloadable from the Datalogic website listed on the back cover of this manual. This multi-platform utility program allows device configuration using a PC. It communicates with the device using a serial or USB cable and can also create configuration barcodes to print.

Using Programming Bar Codes

This manual contains bar codes which allow you to reconfigure your reader. Some programming bar code labels, like ["Resetting Product Defaults" on page 16](#), require only the scan of that single label to enact the change.

Other bar codes require the reader to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT bar code once to enter Programming Mode; scan the desired parameter settings; scan the ENTER/EXIT bar code again to accept your changes, which exits Programming Mode and returns the reader to normal operation.

Configure Other Settings

Additional programming bar codes are available in the PRG to allow customization of programming features. If your installation requires different programming than the standard factory default settings, refer to the PRG.

Resetting Product Defaults

If you are not sure what programming options have been set in your reader, or you have changed some options and want your custom factory settings restored, scan the bar code below to reset the reader to its initial configuration. Refer to the PRG for other options, and a listing of standard factory settings.






NOTE: Factory defaults are based on the interface type. Be sure your reader is configured for the correct interface before scanning this label. See "Selecting the Interface Type" on page 9 for more information.



Reset Default Settings

NUMLOCK

This option specifies the setting of the Numbers Lock (Numlock) key while in keyboard wedge interface. This only applies to alternate key encoding interfaces. It does not apply to USB keyboard.

NUMLOCK
<div></div> <div>ENTER/EXIT PROGRAMMING MODE</div>
<div></div> <div>★ ⓘ Numlock = Numlock key unchanged</div>
<div></div> <div>Numlock = Numlock key toggled</div>

READING PARAMETERS




Move the reader toward the target and center the aiming pattern and illumination system to capture and decode the image. The aiming system will briefly switch off after the acquisition time, and if no code is decoded will switch on again before the next acquisition. The illuminator will remain on until the symbol is decoded.

Aiming System

A number of options for customizing control of the Aiming System are available. See the Gryphon I GFS4500 PRG for more information and programming bar codes.

Good Read Green Spot Duration

Successful reading can be signaled by a good read green spot. Use the bar codes that follow to specify the duration of the good read pointer beam after a good read.

GOOD READ GREEN SPOT DURATION	
	ENTER/EXIT PROGRAMMING MODE
	Disable
	★ Short (300 ms)

GREEN SPOT DURATION (CONTINUED)



Medium (500 ms)



Long (800 ms)

★ = default value

OPERATING MODES

The reader can operate in one of several scanning modes.



NOTE: See the PRG for further information on the operation of reading modes, and additional programmable features.

On Line — Scanning is activated when the button is pushed or through an external trigger (GFS4550 only).







Serial On Line — Scanning is initiated by command sent through the host interface (manual and external triggering can be enabled in this read mode through option setting).

Always on¹ — Scanning is continually on.

Object Sense² — Scanning is turned on automatically when an item is placed in reader's field of view.

Test mode — Once entered, the Status LED is activated in different colors depending on the Good Read rate of the current barcode.

1. "Always On" corresponds to "Automatic" operating mode in previous Gryphon GFS4400 series.
2. "Object Sense" corresponds to "Automatic (Object Sense)" operating mode in previous Gryphon GFS4400 series.

OPERATING MODE	
	ENTER/EXIT PROGRAMMING MODE
	Operating Mode = On Line
	Operating Mode = Serial On Line
	Operating Mode = Always On
	Operating Mode = Object Sense
	Operating Mode = Test Mode

PICK MODE

This option specifies the ability of the reader to decode labels only when they are close to the center of the aiming pattern, which is the area indicated by the red cross. Pick Mode is a Decoding and Transmission process where bar codes that are not within the configurable distance from the center of the aiming pattern are not acknowledged or transmitted to the host. If the scanner switches to a different Read Mode, Pick Mode is automatically disabled.



NOTE: This feature is not compatible with Multiple Labels Reading in a Volume. See the PRG for more information.

PICK MODE
<div></div> <div>ENTER/EXIT PROGRAMMING MODE</div>
<div></div> <div>★ Pick Mode = Disabled</div>
<div></div> <div>Pick Mode = Enabled</div>




★ = default value

MULTIPLE LABEL READING

The reader offers a number of options for multiple label reading. See the PRG or software configuration tool for descriptions of these features and programming labels.

ENERGY SAVING

The following barcodes contain predefined configurations to reduce the power consumption of the scanner.

ENERGY SAVING
<div><p>★ Energy Saving = Off</p></div>
<div><p>Energy Saving = Medium</p></div>
<div><p>Energy Saving = Max</p></div>

Energy Saving = Medium

- Volume of Good Read Beep is reduced to Medium Level
- Intensity of Green Spot and Aimer LEDs is reduced to Mid level

Energy Saving = Max

- Volume of Good Read Beep is reduced to Low Level
- Intensity of Green Spot and Aimer LEDs is reduced to Low level
- Intensity of Status and Power LEDs is reduced to Low Level
- Intensity of Illuminator is reduced to Mid level.







NOTE: Please note, decreasing the Illuminator intensity may reduce the overall reading performances.

Refer to the following table for an estimation of power saving in the different presents:

ENERGY SAVING	TYPICAL POWER SAVING
Off (Default)	0%
Medium	10-15%
Max	20-25%

PERFORMANCE PRESET

The scanner can be configured to match different performance needs, depending on the application. The following barcodes contain predefined configurations to be applied.

PERFORMANCE PRESET
 <p>Fast moving barcodes at close distance</p>
 <p>Medium moving barcodes and smartphones reading at close distance</p>
 <p>★ Smartphone reading at close distance</p>
 <p>Barcode labels at long distance</p>

TECHNICAL SPECIFICATIONS

The following table contains Physical and Performance Characteristics, User Environment and Regulatory information.

PHYSICAL CHARACTERISTICS	
Colors	Black. Other colors and custom logo options are available for minimum quantity purchase.
Dimensions	GFS4500: 2.8 x 4.8 x 5.5 cm / 1.1 x 1.9 x 2.2 in. GFE4500: 2.0 x 2.7 x 4.8 cm / 0.8 x 1.1 x 1.9 in.
Weight	GFS4520: 52 g / 1.8 oz (micro-USB connector) GFS4550: 152 g / 5.4 oz (2m straight cable DB9 connector included) GFS4590: 95 g / 3.4 oz (10cm multi-interface connector included) GFE4590: 17 g / 0.6 oz (12 pin connector)
ELECTRICAL CHARACTERISTICS	
Current	Operating (Typical): < 225 mA Standby/Idle (Typical): - Automatic Object Sense Mode: 115 mA - Online & Serial Online Modes: 55 mA
Input Voltage	GFS4520: 5 VDC +/- 5%; GFS4550/GFS4590/GFE4590: 5 - 14 VDC
ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature	GFS4500: -20 to 50 °C / -4 to 122 °F (suitable up to 55°C / 131 °F) GFE4500: -20 to 60 °C / -4 to 140 °F
Storage/Transport Temperature	-40 to 70 °C / -40 to 158 °F
Ambient Light immunity	0-120,000 Lux
Drop Resistance	Withstands repeated drops from 1.5 m / 5 ft onto a concrete surface
Vibration Resistance	Tolerates random vibration, 5 G, from 22 Hz to 300 Hz, 2 hrs / 3 axes
Particulate & Water Sealing	GFS4500: IP54
READING PERFORMANCE	
Image capture	Graphic Formats: BMP, JPEG, TIFF; Greyscale: 256, 16, 2
Image Sensor	1 Megapixel: 1280 x 800 pixels
Field of View	51°H, 32°V
Print Contrast Ratio (Min.)	15%
Motion Tolerance	70 IPS (EAN/UPC)

Frame Rate	60 full-frame/s
Reading Angles	Pitch: +/- 60°; Roll (Tilt): +/- 180°; Skew (Yaw): +/- 60°
Reading Indicators	Beeper (Adjustable Tone and volume); Datalogic 'Green Spot' Good Read Feedback; Top-Front Good Read LED with Adjustable brightness
Resolution (Maximum)	1D Linear: 0.076 mm / 3 mils Data Matrix: 0.13 mm / 5 mils PDF417: 0.13 mm / 5 mils
INTERFACES	
INTERFACES	GFS4520: USB (micro-USB connector) GFS4550: RS232 (2m straight cable DB9 connector) GFS4590: USB / RS232 (10cm multi-interface connector) GFE4590: USB / RS232 (12 pin connector)
Digital I/O	GFS4550 / GFE4590: One SW Programmable digital input + one SW programmable digital output

DOF - DEPTH OF FIELD ^A	
	Resolution [mils]
Code 39	5 mil: 4 to 30.0 cm / 0.16 to 11.8 in 10 mil: 1.7 to 53.5 cm / 0.6 to 21.0 in
Data Matrix	10 mil: 3.5 to 23.5 cm / 1.3 to 9.6 in 15 mil: 3.0 to 35.0 cm / 1.2 to 13.7 in
EAN/UPC	13 mil: 4.0 to 82.0 cm / 1.6 to 32.3 in
PDF417	10 mil: 1.5 to 35.0 cm / 5.9 to 13.7 in
QR Code	10 mil: 3.5 to 22.0 cm / 1.4 to 8.7 in

- a. Minimum distance determined by symbol length and scan angle. Printing resolution, contrast, and ambient light dependent.

DECODE CAPABILITY	
1D / Linear Codes	Auto discriminates all standard 1D codes including GS1 DataBar™ linear codes.
2D Codes	Aztec Code; China Han Xin Code; Data Matrix; Maxi-Code; Micro QR Code; QR Code; Dot Code; Dot Matrix
Postal Codes	Australian Post; British Post; China Post; IMB; Japanese Post; KIX Post; Planet Code; Postnet; Royal Mail Code (RM4SCC)
Stacked Codes	EAN/JAN Composites; GS1 DataBar Composites; GS1 DataBar Expanded Stacked; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MacroPDF; Micro-PDF417; PDF417; UPC A/E Composites
Digital Watermarking	Digimarc Barcodes
REGULATORY	
See Regulatory Addendum included with your product.	

RS-232 Electrical Connections (GFS4550 only)

9-PIN CONNECTOR		
1	Trigger	Trigger signal input (see Figure 5 and Figure 6 on next page)
2	TX	Transmit Data (output from scanner)
3	RX	Receive Data (input to scanner)
4	NC	Not connected
5	GND	Ground
6	VCC	+5Vdc
7	CTS	Clear To Send (input to scanner)
8	RTS	Request To Send (output from scanner)
9	DIGITAL OUTPUT	Output signal (see Figure 8 and Figure 9)

Default configuration is RS-232: 9600, 8, N, 1, no hand-shaking, ACK/NAK disabled.

Input connection - Typical layout



ENTER/EXIT PROGRAMMING MODE

Figure 5. NPN configuration



NPN configuration = Set Input Configuration to NPN

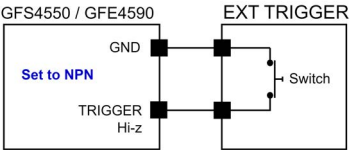
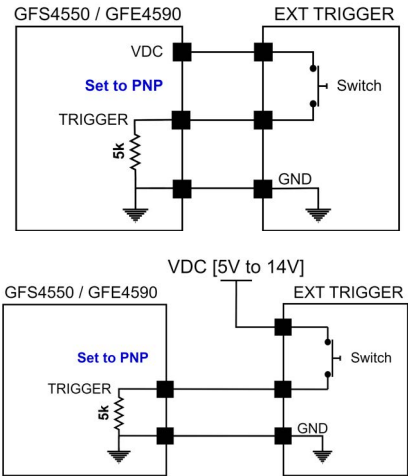


Figure 6. PNP configuration



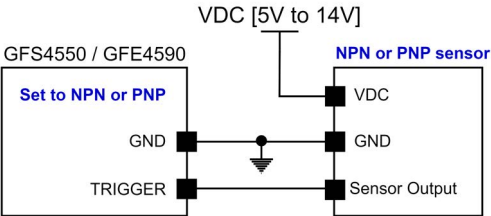
★ PNP configuration = Set Input Configuration to PNP



Vext: 5.0 Vdc to 14.0 Vdc, I_IN: 4.0 mA max

Figure 7. NPN or PNP configuration

Ensure both sides are configured the same way.



Vext: 5.0 Vdc to 14.0 Vdc, I_IN: 4.0 mA max

Output connection - Typical layout



ENTER/EXIT PROGRAMMING MODE

Figure 8. NPN output configuration



★ NPN configuration = Set Output Configuration to NPN

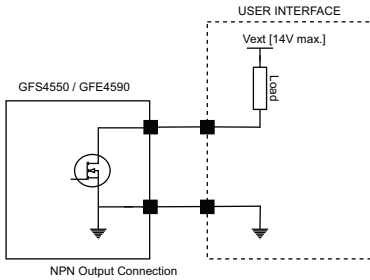
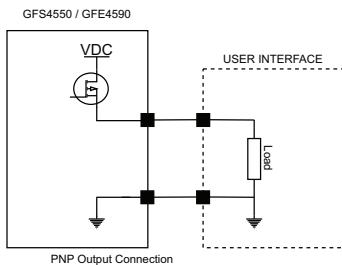


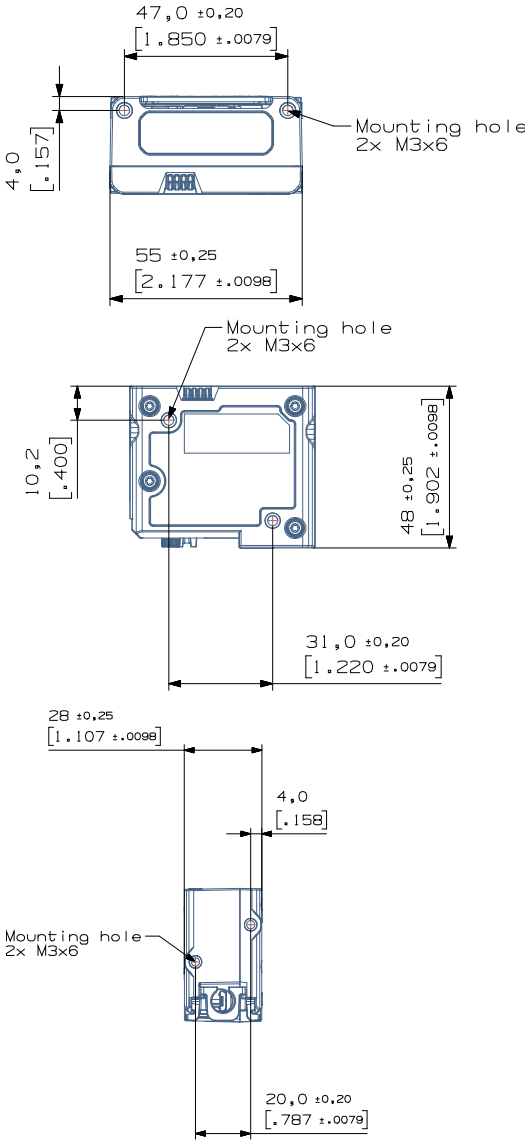
Figure 9. PNP output configuration



PNP configuration = Set Output Configuration to PNP




GFS4500 Dimensions



LED AND BEEPER INDICATIONS

Button and LED Status

The top of the product has a button and three indicator LEDs:

	POWER LED (green)	ON = Power ON
		Blinking = USB enumeration (USB version only) or FW Upgrade
		OFF = Power OFF or Limited Scanning Mode or Standby (USB version only)
	STATUS LED (multicolor)	Green = Good Read, USB enumeration (USB version only) or FW Upgrade
		Blue = External trigger, or button pressed or phase active or Image Capture mode.
		RED = Used to indicate Wrong Code or No Read, depending on the configuration (see Product Reference Guide).



NOTE: It is possible to increase or decrease the intensity of Status and Power LED. For more information, refer to the Product Reference Guide.

Indicators

The reader’s beeper sounds and its LED illuminates to indicate various functions or errors on the reader. An optional “Green Spot” also performs useful functions. The following tables list these indications. One exception to the behaviors listed in the tables is that the reader’s functions are programmable, and so may or may not be turned on. For example, certain indications such as the power-up beep can be disabled using programming bar code labels.

INDICATION	LED	BEEPER
Power-up	Upper LED flashes/ blinks on power-up, however, this may be too rapid to view. With a USB interface, the LED blinks until enumeration with the host is completed.	Imager beeps four times at highest frequency and volume upon power-up.
Good Read	Upper green LED comes on for programmed time (default). LED behavior for this indication is configurable using Aladdin utility.	One beep at current frequency, volume, mono/bi-tonal setting upon a successful label scan. It is also possible to upload custom jingles with Aladdin.
ROM Failure	200ms on / 200ms off	Imager sounds one error beep at highest volume for 200 mS.
Limited Scanning Label Read	N/A	Imager 'chirps' six times at the highest frequency and current volume.
Imager Disabled	The LED blinks continuously 100ms on / 900 ms off	N/A

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Nothing happens when the scan button is pushed	No power to the imager.	Check system power. Ensure power supply is connected.
	Interface or power cables are loose.	Ensure all cable connections are secure.
Status LED comes on, but bar code is not decoded	Imager not programmed for correct bar code type.	Ensure reader is programmed to read the type of bar code scanned. Refer to the PRG for more information.
	Bar code label is unreadable.	Check the label to ensure it is not defaced. Try to scan another bar code type.
	Distance between reader and bar code is incorrect.	Move imager closer to or further from the bar code.
Bar code is decoded but not transmitted to the host.	Imager not programmed for the correct host type.	Scan the appropriate host type bar code. Refer to the PRG for more information.



NOTE: For detailed troubleshooting, refer to the PRG (Product Reference Guide).

USING THE GFS4400 ADAPTER

Customers can take advantage of the accessory “Mounting Adapter to replicate the GFS4400 fixing holes” (Part Number: MA-4500-BK) to replace their setups based on previous Gryphon™ I GFS4400 family, with the new Gryphon™ I GFS4500. Since the two products have different mounting holes, the Adapter Plate can be attached to the GFS4500 to replicate the same mounting holes of the previous GFS4400.

Two M3x10 screws are required to attach the Mounting Adapter to the GFS4500 (already included in MA-4500-BK package).

M3 screws are then required to attach the adapter to the surface, maximum length is 6mm (not included in MA-4500-BK package).



Figure 10. Comparison of front views of Gryphon GFS4400 (left) and Gryphon GFS4500 with Mounting Adapter (right)

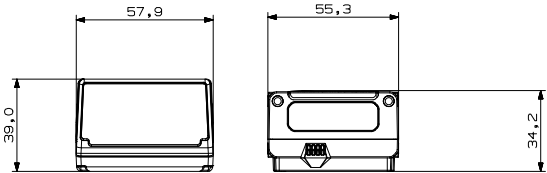
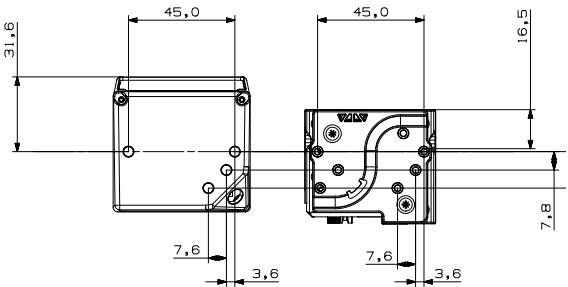


Figure 11. Comparison of bottom views of Gryphon GFS4400 (left) and Gryphon GFS4500 with Mounting Adapter (right)



WARRANTY

Datalogic warrants that the Products shall be free from defects in materials and workmanship under normal and proper use during the Warranty Period. Products are sold on the basis of specifications applicable at the time of manufacture and Datalogic has no obligation to modify or update Products once sold. The Warranty Period shall be **five years** from the date of shipment by Datalogic, unless otherwise agreed in an applicable writing by Datalogic.

Datalogic will not be liable under the warranty if the Product has been exposed or subjected to any: (1) maintenance, repair, installation, handling, packaging, transportation, storage, operation or use that is improper or otherwise not in compliance with Datalogic's instruction; (2) Product alteration, modification or repair by anyone other than Datalogic or those specifically authorized by Datalogic; (3) accident, contamination, foreign object damage, abuse, neglect or negligence after shipment to Buyer; (4) damage caused by failure of a Datalogic-supplied product not under warranty or by any hardware or software not supplied by Datalogic; (5) any device on which the warranty void seal has been altered, tampered with, or is missing; (6) any defect or damage caused by natural or man-made disaster such as but not limited to fire, water damage, floods, other natural disasters, vandalism or abusive events that would cause internal and external component damage or destruction of the whole unit, consumable items; (7) use of counterfeit or replacement parts that are neither manufactured nor approved by Datalogic for use in Datalogic-manufactured Products; (8) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.; (9) loss of data; (10) any consumable or equivalent (e.g. cables, power supply, batteries, etc.); or (11) any device on which the serial number is missing or not recognizable.

THE DATALOGIC WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. DATALOGIC SHALL NOT BE LIABLE FOR ANY DAMAGES SUSTAINED BY BUYER ARISING FROM DELAYS IN THE REPLACEMENT OR REPAIR OF PRODUCTS UNDER THE ABOVE. THE REMEDY SET FORTH IN THE WARRANTY STATEMENT IS THE BUYER'S SOLE AND EXCLUSIVE REMEDY FOR WARRANTY CLAIMS. NO EXTENSION OF THIS WARRANTY WILL BE BINDING UPON DATALOGIC UNLESS SET FORTH IN WRITING AND SIGNED BY DATALOGIC'S AUTHORIZED REPRESENTATIVE. DATALOGIC'S LIABILITY FOR DAMAGES ON ACCOUNT OF A CLAIMED DEFECT IN ANY PRODUCT DELIVERED BY DATALOGIC SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PRODUCT ON WHICH THE CLAIM IS BASED. DATALOGIC SHALL NOT BE LIABLE FOR DAMAGES RELATING TO ANY INSTRUMENT, EQUIPMENT, OR APPARATUS WITH WHICH THE PRODUCT SOLD UNDER THIS AGREEMENT IS USED. Further details on warranty coverage, rights and conditions are addressed under and regulated by the Terms and Conditions of Sales of Datalogic available at https://www.datalogic.com/terms_conditions_sales.

ERGONOMIC RECOMMENDATIONS




CAUTION: In order to avoid or minimize the potential risk of ergonomic injury, follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

TECHNICAL SUPPORT

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to (www.datalogic.com).

For quick access, from the home page click on the search icon , and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings.

Hover over the Support & Service menu for access to Services and Technical Support.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

©2023 Datalogic S.p.A. and /or its affiliates. • All rights reserved • Without limiting the rights under copyright, no part of this documentation may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means, or for any purpose, without the express written permission of Datalogic S.p.A. and/or its affiliates • Datalogic and the Datalogic logo are registered trademarks of Datalogic S.p.A. in many countries, including the U.S. and the E.U.



Datalogic S.r.l.

Via S. Vitalino, 13 | 40012 Calderara di Reno | Bologna - Italy
Tel. +39 051 3147011 | Fax +39 051 3147205