



OM2000N

INSTALLATION MANUAL

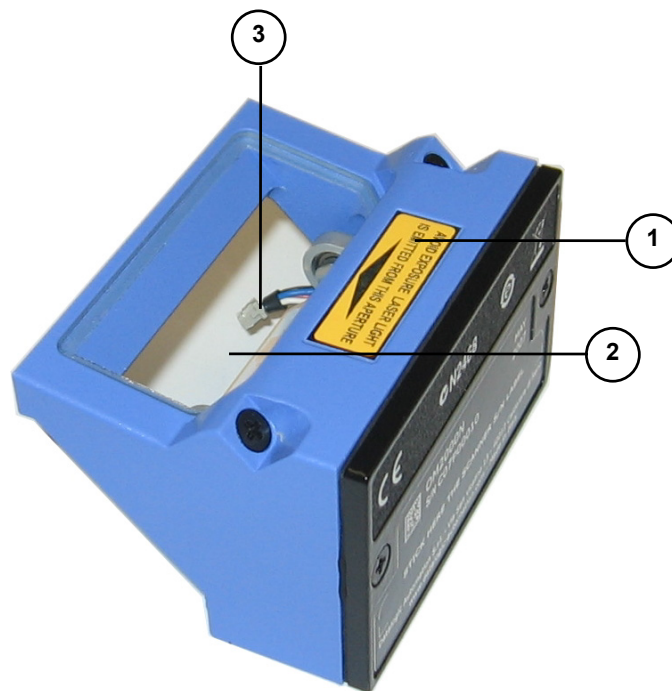


Figure A

- ① Warning Label
- ② Laser Beam Output Window
- ③ Power Cable

DESCRIPTION

The OM2000N oscillating mirror is an accessory for the 2000N family laser scanners: DS2100N, DS2400N. It is designed to generate homogeneous and adjustable raster reading through deflection of the scanning laser beam.

The system consists of the oscillating mirror attached to the scanner and allows a surface instead of a line to be observed; versatility and reading accuracy are therefore increased in "Picket Fence" reading mode.

Some examples are given in the following cases: codes presented at different "heights" on the reading surface; codes with printing defects.

The electronic and electromechanical components controlling the mirror movement are contained inside the rugged metal casing, which guarantees protection class IP65 when the OM2000N is mounted correctly onto the scanner.

The OM2000N is directly powered from the scanner through a connector which is accessible after removing the scanning window (see assembly instructions on page 3). It therefore operates exclusively at low power, between 10 and 30 VDC.

MECHANICAL INSTALLATION

When opening the packaging, verify that the OM2000N oscillating mirror is complete with a set of fixture screws.

MECHANICAL DIMENSIONS

The following figure gives the overall dimensions of the OM2000N and may be used for its installation.

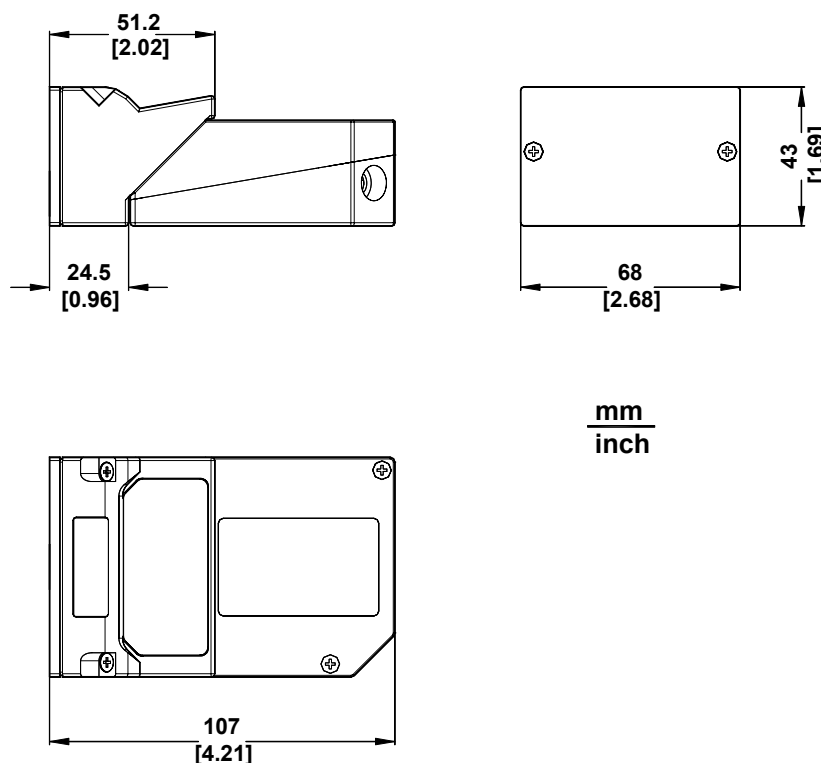


Figure 1 – Overall Dimensions

ASSEMBLY TO THE SCANNER

- 1) Clean the OM2000N mirror surface and output window (internally and externally) with a clean soft cloth and alcohol before assembling it to the scanner.



CAUTION

All abrasive substances must be absolutely avoided as they cause irreparable damage to the transparency of the glass.

- 2) Remove the scanning window from the scanner (see Figure 2).

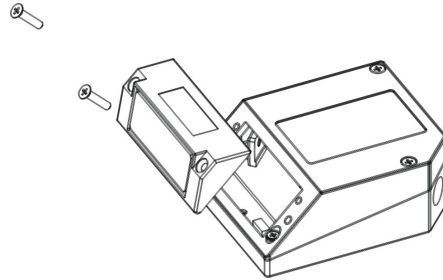


Figure 2

- 3) Bring the OM2000N close to the scanner and insert the cable into the power connector of the scanner (See Figure 3).

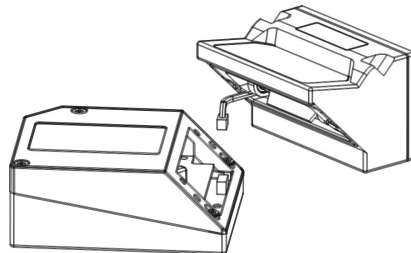


Figure 3



NOTE

Make sure the cable doesn't remain in the path of the mirror movement.

- 4) Check that the seal is correctly positioned and then after having aligned the OM2000N onto the scanner, fix it using the two screws supplied (see Figure 4).

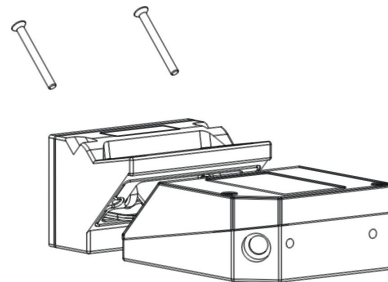


Figure 4

- 5) In the indicated space on the front side of the OM2000N, apply the relative replicate scanner serial number label provided with the scanner itself (see Figure 5).



Figure 5

READING FEATURES

The reading distance of the 2000 series scanner with the OM2000N is shifted by 10 mm towards the scanner because of the internal optical path between the scanner and the OM2000N output window.

The reading performance also decreases in typical conditions by about 10% due to the optical signal passing through the output window of the OM2000N and the reflection on the mirror surface.

The combination of these effects produces the reading diagram represented below:

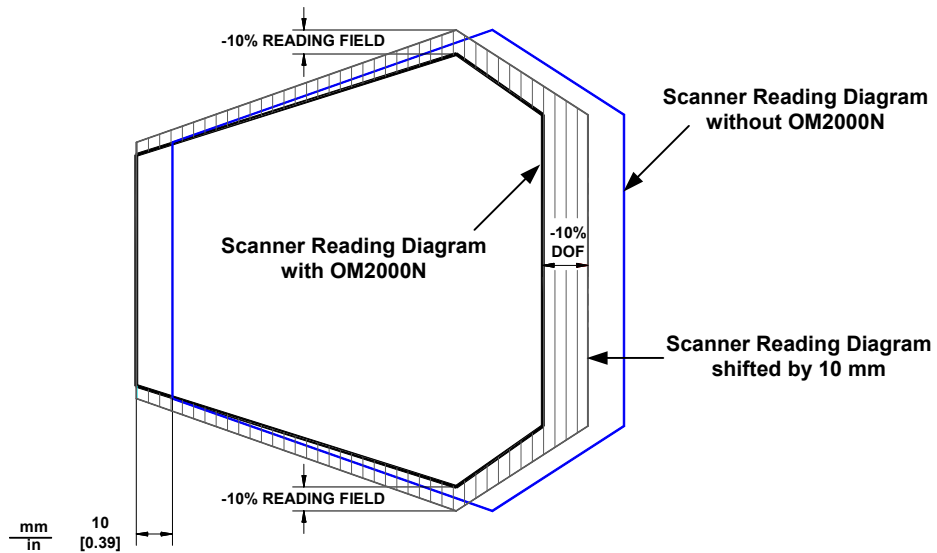


Figure 5 – OM2000N Reading Performance Comparison

The reading distance also depends on the amplitude of aperture used. In particular, wider apertures require the scanner to be closer to the code in order to read at the extreme edges of the sweep (see figure 6 below).

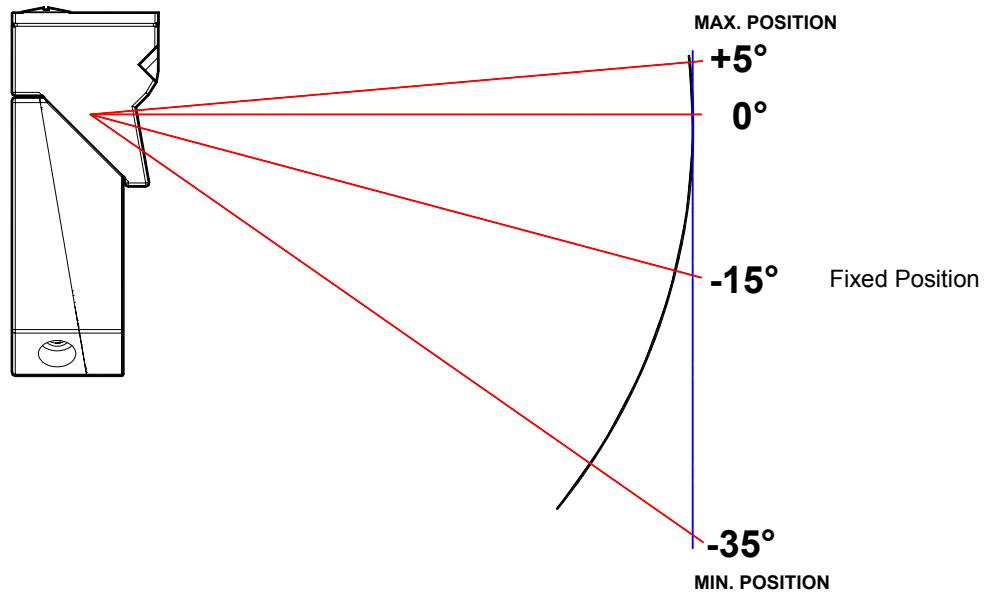


Figure 6 – OM2000N Reading Distance

CONFIGURATION



NOTE

The OM2000N must be mounted to a DS2x00N scanner and is configurable exclusively through the Genius™ utility program. The DS2x000N scanner must have software version 2.03 or later.



NOTE

When entering the X-PRESS™ interface on the DS2x00N, the Oscillating Mirror remains in the default **fixed position** (-15°) in order to make barcode reading easier while performing the X-PRESS™ functions.

The following software configuration parameters are available through Genius™ and described below for reference:

Oscillating Mode

This parameter defines the oscillating mode of the scanner mirror:

Selections: (OM2000N only) **Fixed** the oscillating mirror deflects the scan line at a fixed angle of deflection (-15°).
 (OM2000N only) **Continuous** the scan line is deflected according to the Amplitude and Frequency settings.

Amplitude (degrees)

This parameter is available only when working in Continuous oscillating mode. It defines the deflection range in degrees as a symmetrical oscillation with respect to the fixed angle (-15°).

Selections: a value from **10°** to **40°**:

Frequency (Hz)

This parameter is available only when working in Continuous oscillating mode. It defines the oscillating frequency in Hertz:

Selections: a value from **0.5** to **4.0** Hertz

NOTE

The maximum allowable frequency for an amplitude of 35° or more is 3 Hz.

Triggered

If checked, it allows assigning a trigger through which the oscillating mirror can be activated to work in a second reading zone according to the defined parameters.

Second Zone Trigger

This parameters defines the number of the input or the phase working as trigger.

Selections: **Phase** (available only when working in On Line operating mode)

Input 1

Input 2

Second Zone Trigger Level

This parameter allows setting the active state of the trigger. When the selected state is active, the oscillating mirror starts working in the second reading zone according to the parameters set:

Selections: **Active Open**
 Active Closed

Second Zone Oscillating Mode

This parameter defines the oscillating mode of the scanner mirror to be used in the second reading zone:

Selections: **Fixed** the oscillating mirror deflects the scan line at a fixed angle of deflection (-15°).
 Continuous the scan line is deflected according to the **Second Zone Amplitude** and **Second Zone Frequency** settings.

Second Zone Amplitude (degrees)

This parameter is available only when working in Continuous Second Zone Oscillating Mode. It defines the deflection range in degrees as a symmetrical oscillation with respect to the fixed angle (-15°).

Selections: a value from **10°** to **40°**:

Second Zone Frequency (Hz)

This parameter is available only when working in Continuous Second Zone Oscillating Mode. It defines the oscillating frequency in Hertz:

Selections: a value from **0.5** to **4.0** Hertz:

NOTE

The maximum allowable frequency for an amplitude of 35° or more is 3 Hz.

TECHNICAL FEATURES


ELECTRICAL FEATURES	
Operating voltage	10 to 30 Vdc
Input current max	40 mA (RMS) @ 10 Vdc; 1.2 A max peak current @ 10 Vdc at startup for max duration = 100 ms
Power Consumption max	1 W (RMS) @ 30 Vdc
Raster width	software adjustable from 10° to 40°
Oscillation frequency	software adjustable from 0.5 Hz to 4 Hz
Response time	1s max
ENVIRONMENTAL FEATURES	
Operating temperature	0° to +45 °C (+32° to +113 °F)
Storage Temperature	-20° to +70 °C (-4° to +158 °F)
Humidity max	90% non condensing
Vibration Resistance EN 60068-2-6	- 14 mm @ 2-10 Hz - 1.5 mm @ 13-55 Hz - 2 g @ 70-200 Hz - 2 hours on each axis
Bump Resistance EN 60068-2-29	30 g; 6 ms; 5000 shocks on each axis
Shock Resistance EN 60068-2-27	30 g; 11 ms; 3 shocks on each axis
Protection Class	IP65 (when correctly mounted to the scanner)
PHYSICAL FEATURES	
Dimensions	68 x 43 x 51.2 mm (2.68 x 1.69 x 2.02 in)
Weight	approximately 160 g. (5.7 oz)

Note: the features indicated are to be considered typical at an ambient temperature of 25 °C (77 °F), if not specified differently.

MAINTENANCE AND TROUBLESHOOTING

OM2000N has no user replaceable components and, apart from periodically cleaning the output window, no particular maintenance is necessary; dust and dirt on the surface may alter the reading performance of the system.

Clean the window with soft material and alcohol, absolutely avoiding all abrasive substances.

 <p>WARNING</p>	<p><i>Do not remain in the laser beam output zone during these procedures.</i></p>
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If the device does not operate correctly, verify the connection to the scanner.

SERVICES AND SUPPORT

Datalogic provides several services as well as technical support through its website. Log on to www.automation.datalogic.com and click on the [links](#) indicated for further information including:

- **PRODUCTS**
Search through the links to arrive at your product page where you can download specific **Manuals** and **Software & Utilities** including:
 - **Genius™** a utility program, which allows device configuration using a PC. It provides RS232 interface configuration.
- **SERVICES & SUPPORT**
 - **Datalogic Services** - Warranty Extensions and Maintenance Agreements
 - **Authorised Repair Centres**
- **CONTACT US**
E-mail form and listing of Datalogic Subsidiaries

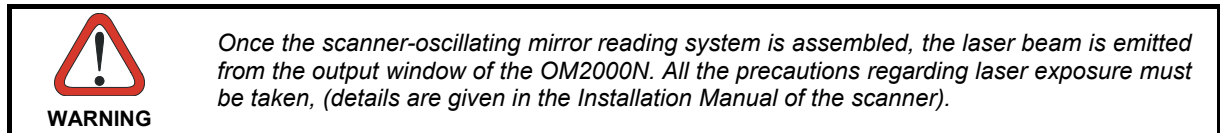
COMPLIANCE

LASER SAFETY

The following label is applied near the output window of the OM2000N:



Warning Label



CE COMPLIANCE

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WEEE COMPLIANCE



ENGLISH

Information for the user in accordance with the European Commission Directive 2002/96/EC

At the end of its useful life, the product marked with the crossed out wheeled wastebin must be disposed of separately from urban waste.

Disposing of the product according to this Directive:

- avoids potentially negative consequences to the environment and human health which otherwise could be caused by incorrect disposal
- enables the recovery of materials to obtain a significant savings of energy and resources.

For more detailed information about disposal, contact the supplier that provided you with the product in question or consult the dedicated section at the website www.automation.datalogic.com.

ITALIANO

Informazione degli utenti ai sensi della Direttiva Europea 2002/96/EC

L'apparecchiatura che riporta il simbolo del bidone barrato deve essere smaltita, alla fine della sua vita utile, separatamente dai rifiuti urbani.

Smaltire l'apparecchiatura in conformità alla presente Direttiva consente di:

- evitare possibili conseguenze negative per l'ambiente e per la salute umana che potrebbero invece essere causati dall'errato smaltimento dello stesso;
- recuperare materiali di cui è composto al fine di ottenere un importante risparmio di energia e di risorse.

Per maggiori dettagli sulle modalità di smaltimento, contattare il Fornitore dal quale è stata acquistata l'apparecchiatura o consultare la sezione dedicata sul sito www.automation.datalogic.com.

DEUTSCH

Benutzerinformation bezüglich Richtlinie 2002/96/EC der europäischen Kommission

Am Ende des Gerätelebenszyklus darf das Produkt nicht über den städtischen Hausmüll entsorgt werden. Eine entsprechende Mülltrennung ist erforderlich.

Beseitigung des Produkts entsprechend der Richtlinie:

- verhindert negative Auswirkungen für die Umwelt und die Gesundheit der Menschen
- ermöglicht die Wiederverwendung der Materialien und spart somit Energie und Ressourcen

Weitere Informationen zu dieser Richtlinie erhalten sie von ihrem Lieferanten über den sie das Produkt erworben haben, oder besuchen sie unsere Homepage unter www.automation.datalogic.com.

FRANÇAIS

Information aux utilisateurs concernant la Directive Européenne 2002/96/EC

Au terme de sa vie utile, le produit qui porte le symbole d'un caisson à ordures barré ne doit pas être éliminé avec les déchets urbains.

Éliminer ce produit selon cette Directive permet de:

- éviter les retombées négatives pour l'environnement et la santé dérivant d'une élimination incorrecte
- récupérer les matériaux dans le but d'une économie importante en termes d'énergie et de ressources

Pour obtenir des informations complémentaires concernant l'élimination, veuillez contacter le fournisseur auprès duquel vous avez acheté le produit ou consulter la section consacrée au site Web www.automation.datalogic.com.

ESPAÑOL

Información para el usuario de acuerdo con la Directiva Europea 2002/96/CE

Al final de su vida útil, el producto marcado con un símbolo de contenedor de basura móvil tachado no debe eliminarse junto a los desechos urbanos.

Eliminar este producto de acuerdo con la Directiva permite de:

- evitar posibles consecuencias negativas para el medio ambiente y la salud derivadas de una eliminación inadecuada
- recuperar los materiales obteniendo así un ahorro importante de energía y recursos

Para obtener una información más detallada sobre la eliminación, por favor, póngase en contacto con el proveedor donde lo compró o consultar la sección dedicada en el Web site www.automation.datalogic.com.

Datalogic Automation S.r.l.
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40012 - Lippo di Calderara
Bologna - Italy

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 declares that the
 déclare que le
 bescheinigt, daß das Gerät
 declare que el

OM2000N; Oscillating Mirror e tutti i suoi modelli
 and all its models
 et tous ses modèles
 und seine Modelle
 y todos sus modelos

sono conformi alle Direttive del Consiglio Europeo sottoelencate:
 are in conformity with the requirements of the European Council Directives listed below:
 sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:
 der nachstehend angeführten Direktiven des Europäischen Rats:
 cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

89/336/EEC EMC Directive	e	92/31/EEC, 93/68/EEC	emendamenti successivi
	and		further amendments
	et		ses successifs amendements
	und		späteren Abänderungen
	y		sucesivas enmiendas

Basate sulle legislazioni degli Stati membri in relazione alla compatibilità elettromagnetica ed alla sicurezza dei prodotti.
 On the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.
 Basée sur la législation des Etats membres relative à la compatibilité électromagnétique et à la sécurité des produits.
 Über die Annäherung der Gesetze der Mitgliedsstaaten in bezug auf elektromagnetische Verträglichkeit und Produktsicherheit entsprechen.
 Basado en la aproximación de las leyes de los Países Miembros respecto a la compatibilidad electromagnética y las Medidas de seguridad relativas al producto.

Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:
 This declaration is based upon compliance of the products to the following standards:
 Cette déclaration repose sur la conformité des produits aux normes suivantes:
 Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
 Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:

EN 55022 (Class A ITE), August 1994: Amendment A1 (Class A ITE), October 2000:	LIMITS AND METHODS OF MEASUREMENTS OF RADIO DISTURBANCE CHARACTERISTICS OF INFORMATION TECHNOLOGY EQUIPMENT
EN 61000-6-2, October 2001:	ELECTROMAGNETIC COMPATIBILITY (EMC) PART 6-2: GENERIC STANDARDS - IMMUNITY FOR INDUSTRIAL ENVIRONMENTS

Lippo di Calderara, June 11th, 2007

Lorenzo Girotti
 Product & Process Quality Manager

