For Direct Marking Applications

Handheld 2D Code Reader

V400-H Series

realizing

A New Handy Reader Capable

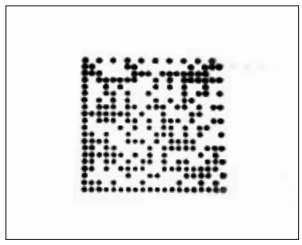
The increasing importance that is being placed on productivity improvements and data management in recent years has led to a rise in the need to mark information directly onto products. The information extends from general product and production information to a production history that tells exactly how the product was manufactured.
Data management in which space-efficient 2D codes are directly stamped onto products is making particularly rapid progress. For a variety of reasons, however, such as the fact that the surface on which the 2D codes are stamped lacks smoothness, conventional handheld readers have difficulty reading them with sufficient stability.

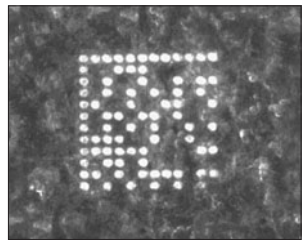
The V400-H Series was developed from the concept of creating a handheld reader that is capable of reading directly marked codes. It accurately reads 2D codes directly marked onto metallic or LCD panels, printed circuit boards, and other objects.

# of Reading Directly Marked Codes

Stable Reading from a Wide Variety of Objects Patent pending

One of the industry's most advanced reading algorithms combines with an optical system that is highly suited to direct marking applications, to deliver highly accurate reading capabilities. The Reader is also equipped with its own coaxial illumination and oblique illumination. The illumination is automatically switched to match the object being read, enabling superior reading of 2D codes marked onto materials with different reflection factors.


Metal (treated surface)

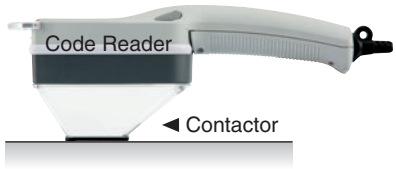

Metal (casting surface)

Glass wafer

Printed circuit board

Bringing Greater Visibility to 2D Code Reading

- The LCD monitor lets you confirm the position of the 2D code, then displays the reading results and image.
- Using the detachable Contactor greatly simplifies positioning.



Designed for Easy Use on Production Lines

Read Data Is Stored onto an SD Memory Card

The 2D code data read by the Code Reader can be stored onto an SD Memory Card together with a time stamp.

Easy-to-press Trigger Buttons

The trigger buttons are positioned where the thumb is naturally placed when holding the Code Reader's grip.

Settings Can Be Changed On-site

Changes can be made to the settings without having to use a personal computer.

Easy-to-hold Grip Shape

Grooves along the bottom surface of the grip ensure a good fit even when wearing gloves.

Two Hanging Hooks

Hanging hooks on both upper and lower parts of the Code Reader allow it to be easily hung somewhere near the production line.

Safe Protective Structure

An IP64 enclosure rating prevents adverse effects from water splashing on the line.

Easy-to-see Contactor

The transparent material used in the Contactor improves visibility.

Target Object Protective Cover

A rubber protector on the surface that contacts the object prevents scratches.

Two Cable Lengths Available: 2 Meters and 5 Meters

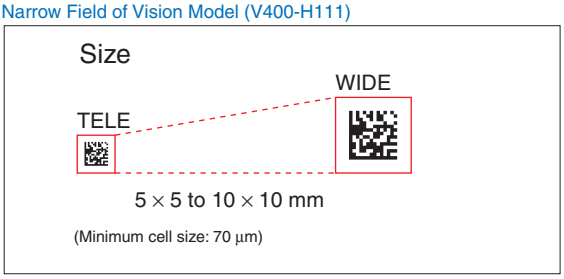
AC Adaptor Also Available

Select either a 5-VDC Power Supply or an AC Adaptor to match the conditions of use.
(Each uses a different cable model.)

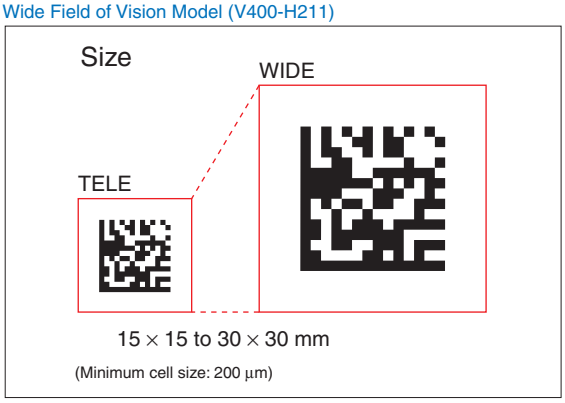
Variable Field of Vision

The zoom lever lets you easily change the field of vision to match the size of the code being read.

Narrow Field of Vision Model (V400-H111)



Wide Field of Vision Model (V400-H211)



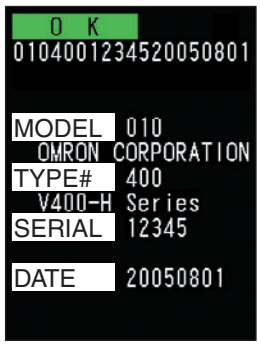
Display Customizing Function

Patent pending

The 2D code data that is read can be displayed on the LCD as a previously registered text string.*

* Special software is available for set-up.
See the operation manual for details.

Sample display with the function OFF



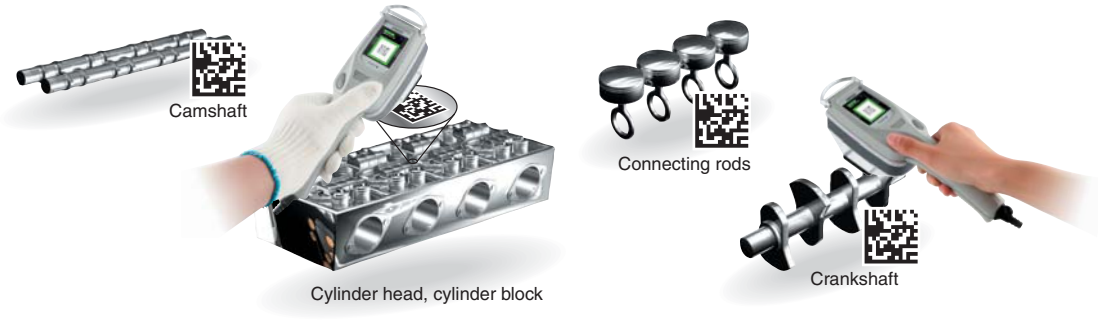
Sample display with the function ON

Versatile LCD Display Patterns

The reading results can be displayed in four patterns to match your application.

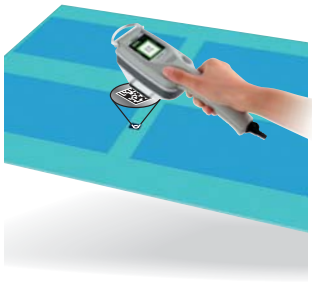
Examples of Typical Applications

2D Codes on Metallic Parts



2D Codes on Printed Circuit Boards

2D Codes on LCD Glass Panels

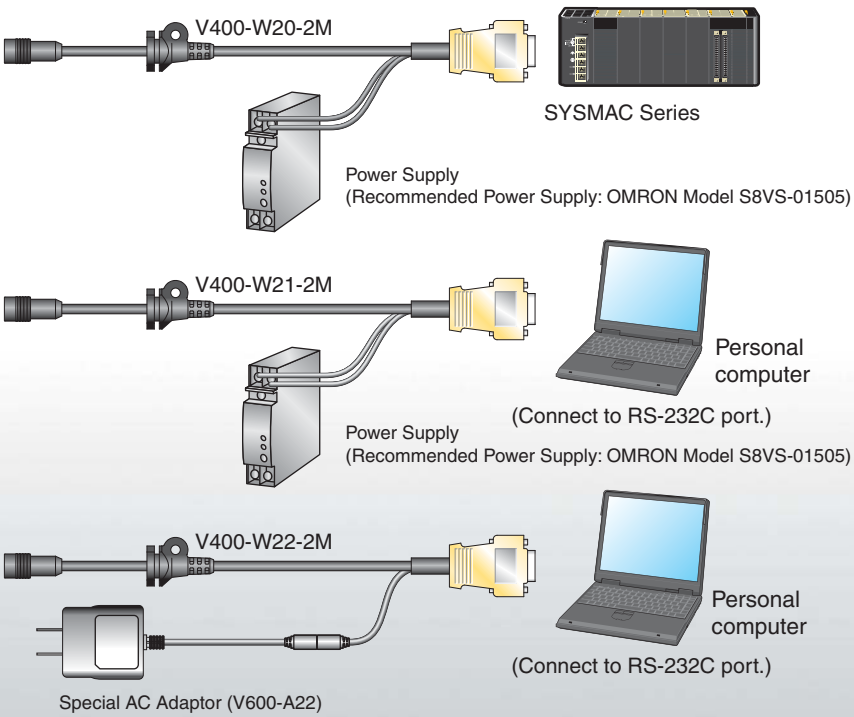


2D Codes on Electronic Components (Crystal oscillators, ICs)

System Configuration

The Code Reader can be connected with other equipment via RS232C.

V400-H111
V400-H211

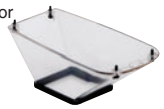


Ordering Information

Main Unit

Name	Model	Specifications		Remarks
		Communications interface	Field of vision	
2D Code Reader	V400-H111	RS-232C	5 × 5 to 10 × 10 mm	
	V400-H211	RS-232C	15 × 15 to 30 × 30 mm	

Accessories (Purchase separately)

Name	Model	Cable length	Remarks
Contactor 	V400-AC2	---	Contactor for positioning (detachable)
Communications Cable	V400-W20-2M	2 m	For SYSMAC Series connection (with power cord)
	V400-W20-5M	5 m	
	V400-W21-2M	2 m	For PC-compatible connection (with power cord)
	V400-W21-5M	5 m	
	V400-W22-2M	2 m	For PC-compatible connection (when using AC Adaptor)
	V400-W22-5M	5 m	
AC Adaptor	V600-A22	---	

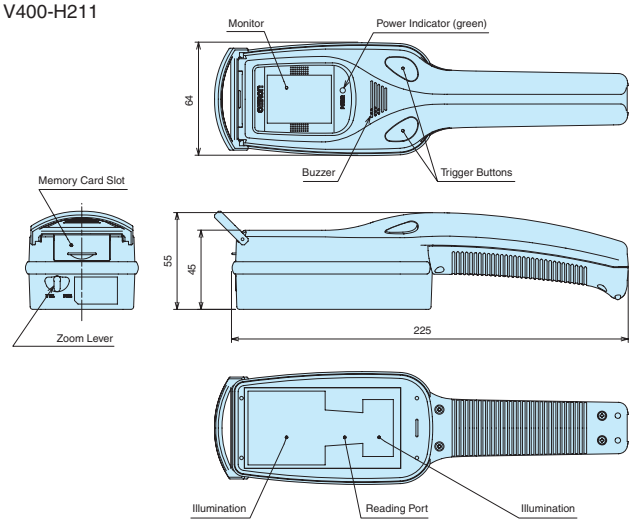
Ratings and Specifications

Item	V400-H111	V400-H211
Field of vision	5 × 5 to 10 × 10 mm	15 × 15 to 30 × 30 mm
Cell size	0.08 to 0.2 mm	0.2 to 0.65 mm
Code size	0.8 × 0.8 to 5 × 5 mm	2.0 × 2.0 to 15 × 15 mm
Working distance	40 mm (flush when Contactor is mounted)	
Power supply	5 VDC ±10%	
Current consumption	1.0 A max.	
Serial interface	RS-232C	
Applicable codes	Data Matrix, ECC200, 10 × 10 to 64 × 64, 8 × 18 to 16 × 48, QR Code (Models 1, 2), 21 × 21 to 57 × 57 (Versions 1 to 10)	
Operation method	Pressing the trigger button	
Settings	Make settings by using the manual setting window, uploading from an SD Memory Card, or by using Support Software.	
Memory card	SD Memory Card	
Monitor	1.8-inch TFT LCD, displaying images and read data	
Display illumination	Operation display, memory card access	
Ambient temperature	Operation: 0 to 40°C; storage: –25 to 60°C	
Ambient humidity	35 to 85% (with no condensation)	
Ambient conditions	No corrosive gases	
Vibration resistance	10 to 150 Hz, single amplitude 0.35 mm (50 m^2/s max. acceleration)	
Shock resistance	150 m^2/s in ±X, Y, and Z directions, 3 times	
Weight	Approx. 230 g	
Degree of protection	IEC 60529 IP64	
Materials	Case: ABS; optical surface: PC; display surface: PMMA	

Dimensions (Unit: mm)

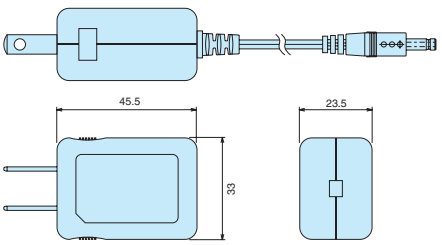
Main Unit

V400-H111
V400-H211



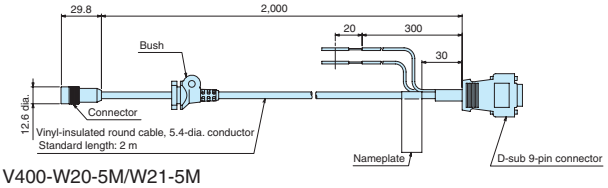
AC Adaptor

V600-A22

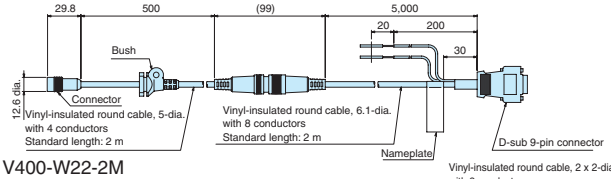


Communications Cable

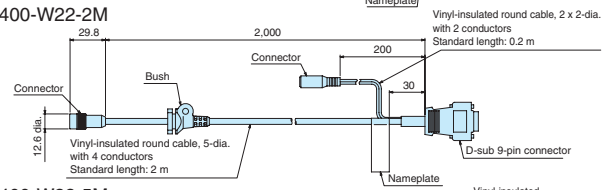
V400-W20-2M/W21-2M



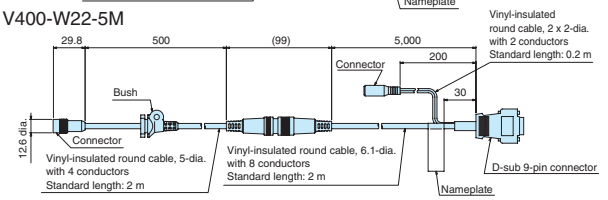
V400-W20-5M/W21-5M



V400-W22-2M

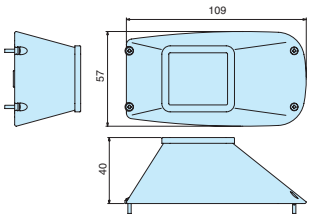


V400-W22-5M



Contactor

V400-AC2



This document provides information mainly for selecting suitable models. Please refer to the User's Manual (Cat. No. Z228) for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.

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