## Code Reader ${ }^{\text {TM }}$ 900FD



## Features \& Benefits

- High speed, omnidirectional imaging of 1D bar code symbologies
- Future proof investment with upgradeability to stacked bar codes and 2D bar codes with the purchase of a license key
- Wide Area Image Sensor
- Manual or Automatic triggering
- 2 programmable indicators: LED and tone
- All-inclusive kits available
- Reads bar codes reliably off cell phone screens
- Uses Code's rapid disconnect Affinity ${ }^{\circledR}$ cables
- Low power consumption
- Available in dark gray
- IP54 Housing



## Overview

If you are thinking about adding the capability of reading 2D symbologies to your application but are not quite ready to make the investment, Code's CR900FD is the smart choice and the right choice. The CR900FD is Code's entry-level, area imaging device come standard with the ability to read all of the most popular 1D bar codes, but is designed with flexible decoding capabilities that gives you the option to upgrade to a selection of stacked or 2D bar code symbologies. When the timing is right, you can add all 2D or stacked symbologies, or even select a single 2D or stacked symbology, simply and affordably with the purchase of a license key.

The CR900FD has several major advantages over single-line laser scanners and linear imagers by providing full omnidirectional reading of standard 1D symbologies, as well as the ability to read bar codes off of mobile phone screens, all at linear scanner prices. The CR900FD has both a manual trigger as well as an auto-detection mode when used with the Universal Stand. Other features include a bright blue aiming bar, rapid disconnect cables and a dark gray housing that is sure to match your system.

Applications for the CR900FD include Retail Point-of-Sale, Manufacturing, Work-in-Process, Document Processing and more.


## Physical Characteristics

| CR900FD Dimensions: | $5.5^{\prime \prime} \mathrm{H} \times 2.75$ " $\mathrm{L} \times 2.0^{\prime \prime} \mathrm{H}$ <br> $(140 \mathrm{~mm} \mathrm{H} \times 70 \mathrm{~mm} \mathrm{~L} \times 50 \mathrm{~mm} \mathrm{~W})$ |
| :--- | :--- |
| CR900FD Weight | $3.9 \mathrm{oz}(110 \mathrm{~g})$ |
| IP Rating | 54 |

## Performance Characteristics

| Field of View: | Wide Field: $50^{\circ}$ horizontal by $33.5^{\circ}$ vertical |
| :---: | :---: |
| Focal Point: | Approximately 100 mm |
| Sensor: | CMOS gray scale |
| Optical Resolution: | Wide Field: $960 \times 640$ pixels |
| Pitch: | $\pm 60^{\circ}$ (from front to back) |
| Skew: | $\pm 60^{\circ}$ from plane parallel to symbol (side-to-side) |
| Rotational Tolerance: | $\pm 180^{\circ}$ |
| Print Contrast Res.: | $25 \%$ (1D symbologies) or $35 \%$ (2D symbologies) absolute dark/light reflectance differential, measured at 650 nm |
| Target Beam: | Single, blue targeting bar |
| Ambient Light Immunity: | Sunlight: Up to 9,000ft-candles/96,890 lux |
| Shock: | Withstands multiple drops of $6^{\prime}$ ( 1.8 Meters) |
| Power Requirements: | $\begin{aligned} & \text { Reader @ } 5 \mathrm{vdc}(\mathrm{~mA}) \text { : Typical = less than } 450 \mathrm{~mA} \text {; Idle = less } \\ & \text { than } 80 \mathrm{~mA} \text {; Sleep }=\text { less than } 31 \mathrm{~mA} \end{aligned}$ |
| Memory Capacity: | 128MB Flash ROM, 32 MB RAM |
| Communication Interfaces: | RS232, USB 2.0 (Generic HID, HID Keyboard, Virtual Com Port) |
| Warranty: | 5 years |

## Accessories

- USB Affinity ${ }^{\circledR}$ Straight Cable
- USB Affinity ${ }^{\otimes}$ Coiled Cables
- RS232 Affinity ${ }^{\otimes}$ Coiled Cable
- Universal Stand


CR900FD with Universal Stand

## User Environment

| Operating Temperature: | $-20^{\circ}$ to $55^{\circ} \mathrm{C} /-4^{\circ}$ to $131^{\circ} \mathrm{F}$ |
| :--- | :--- |
| Storage Temperature: | $-30^{\circ}$ to $65^{\circ} \mathrm{C} /-22^{\circ}$ to $150^{\circ} \mathrm{F}$ |
| Humidity: | $5 \%$ to $95 \%$ non-condensing |
| Decode Capability: | 1D: UPC/EAN/JAN, Code 39, Code 93, Code 128, Interleaved <br> 2 of 5, Codabar, GS1 DataBar (RSS) <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br> 2tacked 1D: PDFF417 (Additional License Required) <br> Required) |
| Proprietary 2D: GoCode ${ }^{\oplus}$ (Additional License Required) |  |

## Working Ranges

| CR900FD Performance |  |  |
| :---: | :---: | :---: |
| Test Code | Min Inches (mm) | Max Inches (mm) |
| 4 mil Code 39 | 1.6 " (40 mm) | 3.1" (78 mm) |
| 7.5 mil Code 39 | 1.3 " (34 mm) | $7.2^{\prime \prime}(182 \mathrm{~mm})$ |
| 9.5 mil Code 128 | 0.6 " (15 mm) | 8.3 " $(212 \mathrm{~mm}$ ) |
| 10.5 mil UPC | 0.8 " (20 mm) | 9.0 " 2228 mm ) |
| 13 mil UPC | 1.1" (28 mm) | 11.0" (280 mm) |
| 4.2 mil DM* | 1.9 " (48 mm) | 2.6" (66 mm) |
| 5 mil DM* | 1.7 " ( 43 mm ) | 3.0" (76 mm) |
| 6.3 mil DM* | 1.3 " (33 mm) | 4.1" (104 mm) |
| 10 mil DM* | 0.8 " (20 mm) | 6.5 " (165 mm) |
| 20.8 DM* | $1.1^{\prime \prime}(28 \mathrm{~mm})$ | 13.5" (343 mm) |

Note: All samples were high quality codes and were read along a physical center line at a $10^{\circ}$ angle. Default AGC settings were used.
*Data Matrix is used to for configuration codes on the CR900FD, however additional licensing is required to enable full Data Matrix reading. Expect other 2D symbologies to perform similarly to Data Matrix.

