



High-Speed, High-Quality Imaging

Standard Set

<i>i-SPEED 3</i> camera	
Getting started guide	Gigabit Ethernet crossover cable
PC software - Control	Composite video cable
Transport case	S-Video cable
Battery	Power supply
Feature connector cable	Mains cable x 3 (UK, USA/Japan, Europe)
Pickle switch	Fuse (pack of 5)
USB CF card reader	Instructions

Controller Display Unit (CDU) is a recommended accessory

Features

Resolution	1280 x 1024 @ 2,000 fps
Maximum Frame Rate	150,000 fps
Shutter	1 μ s - automatic electronic individual FPN correction on power up
Random Snapshot	Image capture upon receipt of a synchronisation pulse
i-CHEQ	Externally visible indicators to confirm camera record status. Positioned on rear of camera
i-FOCUS	Electronic function to confirm focal depth of lens and point of focus. Ideal for ease of camera set up
Luminance Histogram	For precise illumination and image set up
User Settings	Five programmable user settings in camera and infinitely expandable via CF card
Economy Mode	16 x 9 aspect ratio setting 720P
Image Processing	Process images before saving via on board editing suite
Image Manipulation	Zoom/Pan/Select region of interest
Measurement	On board analysis function enabling measurement of distance, speed, acceleration, angle, angular velocity, and angular acceleration
Triggering	0-5 V TTL, Video Trigger, ROC, BROG
Permanent Text	Burn permanent text onto individual frames
Logo Load	Load corporate logos to personalise cameras and videos
Synchronisation	Phase lock enables multiple cameras to be synchronised to one microsecond accuracy
Image Storage Formats	Raw Bayer/AVI/MJPEG
Security	Once powered down, the camera does not retain video images

Models

Each camera is available as a colour unit and has a selectable internal memory size.

Memory size	Record time at full resolution
4 GB Monochrome/HG	1.2 seconds
8 GB Monochrome/HG	2.4 seconds
16 GB Monochrome	4.9 seconds
4 GB Colour/HG	1.2 seconds
8 GB Colour/HG	2.4 seconds
16 GB Colour	4.9 seconds

Memory upgrade is available between units

Operation

Cameras may be operated as stand-alone units with the patented* CDU or by PC via Ethernet connection (see software sheet)

Dimensions	112 mm (W) x 141 mm (H) x 341 mm (L)
Weight	5 kg including battery
Input Voltage	14 V -0% to 28 V +5%
Power Consumption	Camera 70 W max/System 80 W max
Mounting	5 x ¼" Whitworth threads located on three sides
Battery (optional)	Li-Ion, 10.8 V, 45 minutes continuous usage
Lens Mounting	F-Mount

Image Sensor

Sensor Type	Custom CMOS
Resolution	1280 x 1024
Sensor Size	34.423 (diagonal) 21.504 x 26.88 mm
Pixel Size	21 micron
Aspect Ratio	5:4
Shutter	2.16 µs (HQ mode)/1 µs (QS Mode)
Bit Depth	10 bit
Sensor	Sealed unit, no dust ingress
ISO Rating (ISO 12232)	Mono 5,000/Mono 40,000† Colour 1,600/Colour 12,800†

†ISO sensitivity with sensor gains on maximum

Regulatory Compliance

EMC	CISPR22 (BS EN55022) CISPR24 (BS EN55024)
Safety	BS EN61010-1
CE Marking	EMC Directive (Camera), LV Directive and EMC Directive (Power Supply)
Lead Free	RoHS Directive
WEEE	Compliant
IP Rating	IP 20
IMERC (CDU)	Contains mercury, dispose according to local, state or federal laws

Operating Environment

Temperature	0 °C to +40 °C operation -20 °C to +60 °C storage
Pressure	71 kpa to 106 kpa
Relative Humidity	95% at 40 °C non-condensing

G Rating

HG Cameras	100 G @ 11 milliseconds	IEC 68-2-27 Ea
	100 G @ 2 milliseconds	IEC 68-2-29 Eb

Storage Case

Dimensions	560 mm (W) x 270 mm (H) x 450 mm (L)
Weight	8.20 kg without contents

CDU

Dimensions	267 mm (W) x 210 mm (H) x 43 mm (L)
Weight	1.25 kg
Display	8.4" LCD Daylight viewing
Input Voltage	12 V ± 10%
Power Consumption	8 W maximum

Note: Product contains Mercury, please dispose of in accordance with local, state and federal laws.

i-SPEED 3 (High-Quality) HQ Mode - 4 GB Internal Memory

Frames per Second	Resolution	Frames in Memory	Record Time (s)
1	1280 x 1024	2,447	2447.000
25	1280 x 1024	2,447	97.880
100	1280 x 1024	2,447	24.470
150	1280 x 1024	2,447	16.313
200	1280 x 1024	2,447	12.235
300	1280 x 1024	2,447	8.157
400	1280 x 1024	2,447	6.118
500	1280 x 1024	2,447	4.894
1,000	1280 x 1024	2,447	2.447
1,500	1280 x 1024	2,447	1.631
2,000	1280 x 1024	2,447	1.224
3,000	1068 x 800	3,767	1.256
4,000	912 x 684	5,159	1.298
5,000	804 x 600	6,672	1.334
10,000	528 x 396	15,393	1.539
15,000	420 x 312	24,561	1.637
20,000	348 x 260	35,572	1.779
30,000	264 x 72	62,202	2.073
40,000	96 x 72	93,130	2.328
50,000	96 x 72	135,462	2.709
75,000	96 x 72	253,992	3.386
100,000	96 x 72	465,653	4.657
125,000	96 x 72	859,625	6.877
150,000	96 x 72	1,219,165	8.127

i-SPEED 3 (Quality with Speed) QS Mode

100,000	108 x 80	372,522	3.725
125,000	84 x 60	638,625	5.109
150,000	72 x 52	859,667	5.731

Note: Record time is directly proportional to memory size

*The CDU is patented in the UK, patents pending in other markets

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