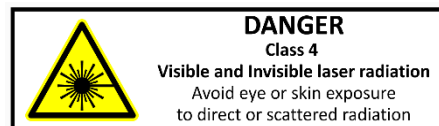


Technical Data Multiscan® – Specification



Multiscan® HE 15i 10.6µm	
Laser characteristics⁽¹⁾	
Type	Sealed CO ₂ RF excited slab
Wavelength ⁽²⁾	10.6µm
Rated output power	175W
Peak power	440W
Minimum shipment power	210W
Typical shipment power	235W
Pulse energy range	7mJ to 140mJ
Pulse frequency range	500Hz to 50kHz
Duty cycle (maximum)	60%
Pulse width range	2 to 400µs
Optical rise/fall time ⁽³⁾	<60µs
Polarisation ⁽⁴⁾	Linear rotated
Performance	
Line speed (maximum) ⁽⁵⁾	0-500m/min (static or 'on the fly' marking)
Characters/second (maximum) ⁽⁶⁾	1200
Software	
Operating system	Windows 10 Embedded
Principal features	
- (Field types)	Fixed text, date/time with offset, custom date, incremental counters, operator fields, logos, barcodes, bitmaps, composite fields, shift field and external fields.
- (Control options)	Serial, Digital, Ethernet
Code characteristics	
Scan area (standard)	70mm/105mm/140mm/210mm/250mm
Character height	1mm – 50mm
Spot size (1/e ² diameter) ⁽⁷⁾	0.51mm
Beam pointing stability (half angle)	<0.25mRad
Display/Keypad	
Remote VGA display (colour) and Qwerty keypad	Standard
Fabrication	
Main enclosure	316 stainless steel
Laser enclosure	Silver anodised aluminium with optional stainless steel covers
Beam delivery	Silver anodised aluminium
Scan head	Silver anodised aluminium
Dimensions and weights	
Main enclosure	800mm(l) x 550mm(w) x 274mm(h)
Laser enclosure (without beam delivery or scanning head)	1000mm(l) x 252mm(w) x 228mm(h)
Scancube 14	133.5mm(h) x 99.5mm(w) x 122.8mm(d)
Weight – Main enclosure	65kg
Weight – laser enclosure (without beam delivery or scanning head)	56kg
Electrical ratings	

Voltage
Typical power consumption⁽⁸⁾

230VAC $\pm$ 10% 50/60Hz. Single or bi-phase
12A @ 230V

Cooling

Type
Minimum flow rate
Recommended flow rate
Maximum pressure
Refrigeration capacity
Temperature

External water
 $\geq$ 5L/min
 $\geq$ 6L/min
6 bar
 $>$ 4kW
19°C/66°F to 25°C/77°F $\pm$ 1°C (Above dew point)

Environmental

Lens Protection (air curtain)
Humidity
Storage temperature
Sealing (main enclosure)
Sealing (laser enclosure)

20psig 25 litres/min, purified
10 to 90% non-condensing
-10 to +70°C
IP66
N/A

Interface

Inputs
Product detector
Shaft encoder

Interlocks
System enable
Extractor fault
Remote control/File download

Two independent inputs for NPN or PNP 24 or 12VDC
Input for control of variable speed production lines,
dual channel quadrature input, max 200kHz
Dual channel interlock, dual channel E-stop
Input for the provision of externally enabling or disabling the system
Input for monitoring the status of the extractor
RS232, with Ethernet options

Outputs
Product detector output
System on
Ready to print
Product reject
Shutter status
Extractor enable
Good mark
Maintenance required
System fault

Two outputs for monitoring the two detector input signals
Output for monitoring the on/off power
Output for monitoring the status i.e. Standby or Ready to Print
Output for rejecting unmarked product
Two independent outputs for monitoring the safety shutter status
Output to enable the extractor when the system is ready to print
Output for monitoring of the status of each individual mark
Output for indication that maintenance is required
Output for monitoring when the system has a fault

Options

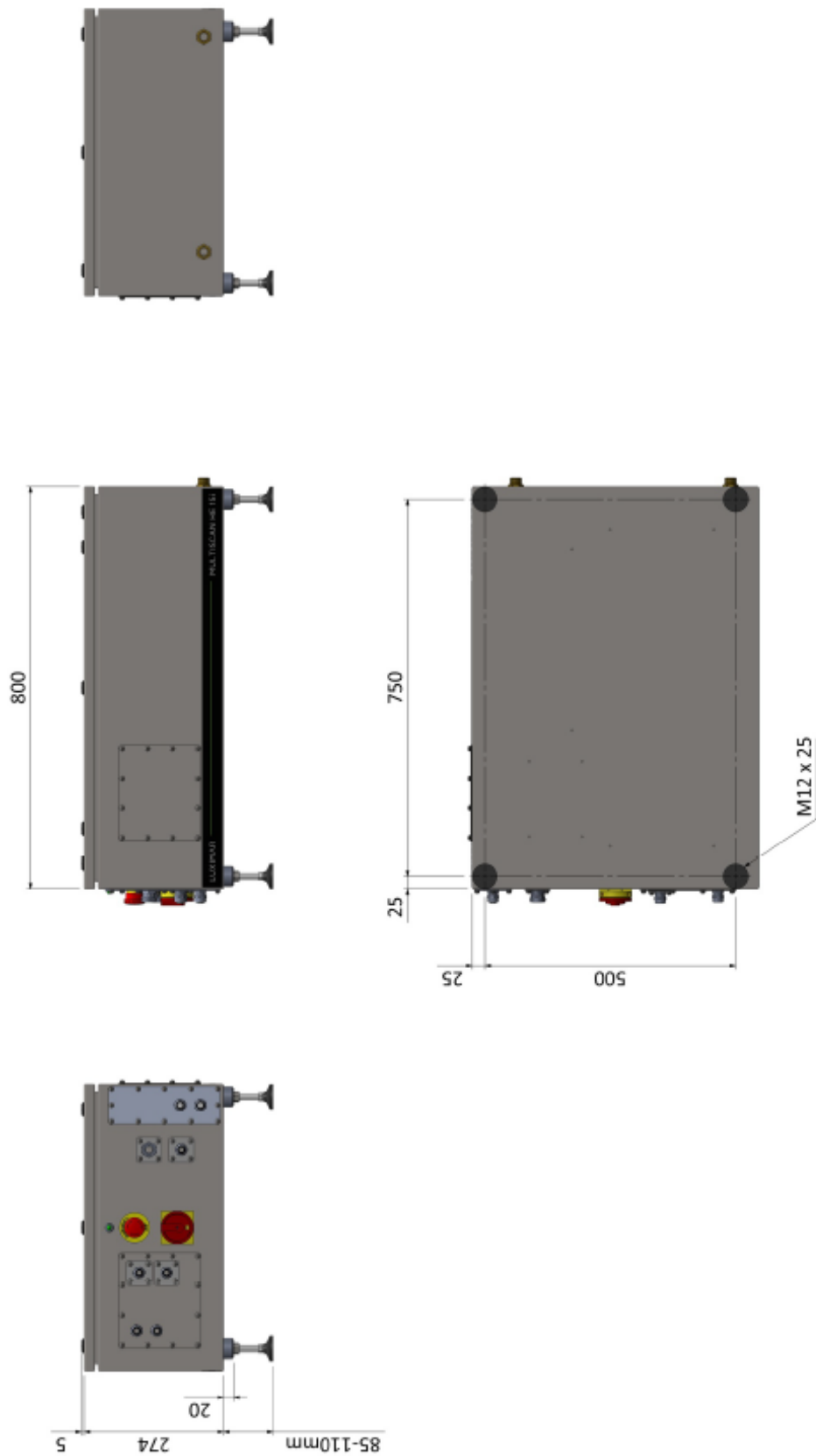
7mm aperture scanning head
10mm aperture scanning head
Scanning lens focal lengths 75mm – 360mm
Articulated arm beam delivery

Notes:

1. Power and energy is quoted at the point where the beam exits the laser enclosure. For each mirror in the beam delivery there is an expected loss of between 0.5% and 1%. Operating with the galvanometer head gives a further expected power loss of between 6% and 12%.
2. 10.6 μ m is the predominant wavelength. This can typically vary in the range 10.2 μ m – 10.7 μ m.
3. Rise and fall times are quoted between the 10% and 90% levels.
4. Polarization angle is dependent upon the type and orientation of the beam delivery.
5. Maximum line speed is assuming a single line 8-character code on an inked paper label. Please note that maximum line speed is dependent upon the nature of the material and the size/quantity/complexity of the mark.
6. Character generation speed in a single line format with a code height of 2mm. Faster generation speeds are possible at smaller code heights. Mark quality dependent upon character height, material and speed of marking.
7. Operating with 14mm aperture head, 360mm focal length lens.
8. Typical average power consumption assumes a 50% coding duty cycle.

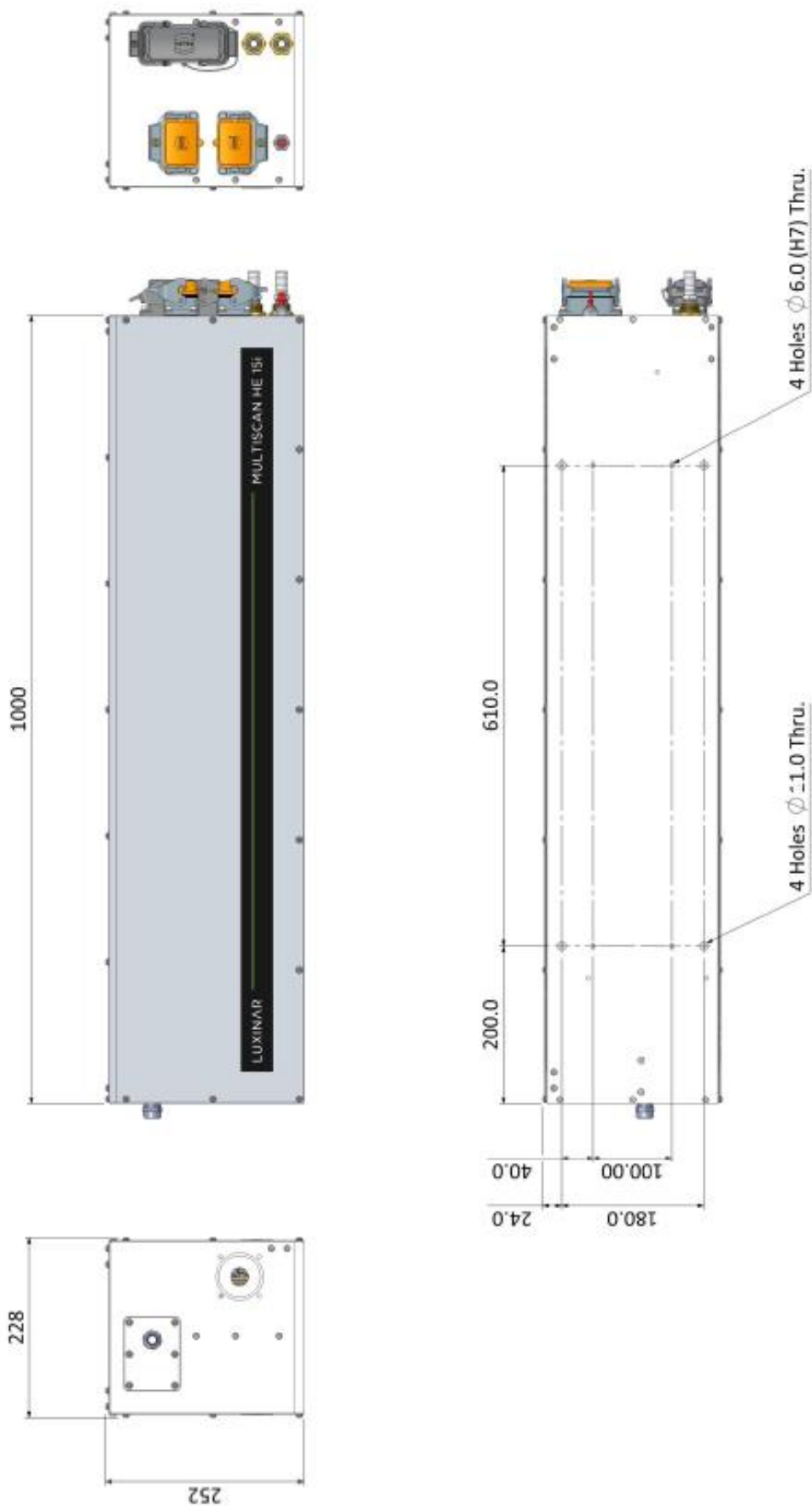
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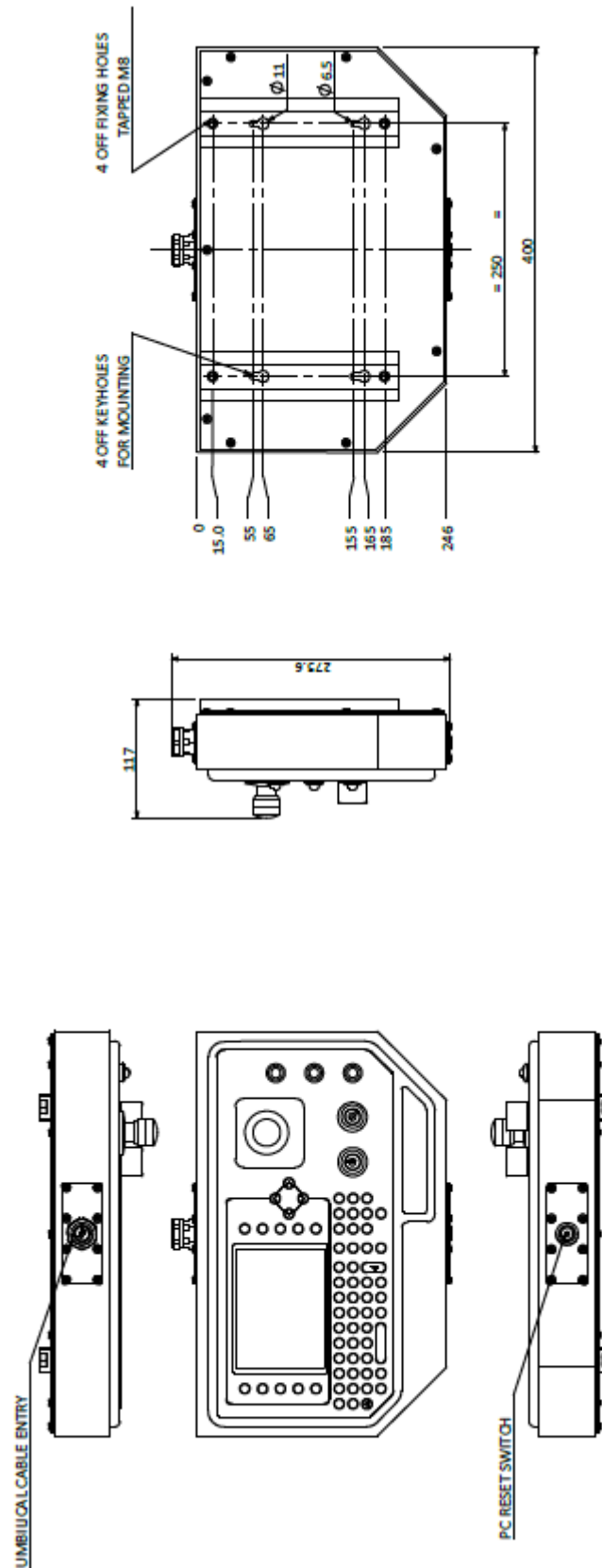


Multiscan® HE 15i – main enclosure

Note: Four mounting positions M12 x 25mm depth are provided. The enclosure can be supplied with adjustable feet, as shown.



Multiscan® HE 15i – laser enclosure (without beam delivery)



Control panel

Note: The control panel is supplied with a 5m umbilical cable for connection to the main enclosure.