Technical Data

Hardware revision v1.0

General/dimensions/weights

Housing	aluminum-profile framework acrylic glass integrated LED lighting
Positioning system	extruder head mounted on belt driven H-frame (X/Y-axis) screw driven print table (Z-axis)
3D printing technology	Fused Filament Fabrication (FFF)
Length	800mm
Width	600mm
Height	800mm
Weight	49kg (empty)
Connection cable	1.000mm w. Schuko plug and IEC connector

Temperatures

Extrusion temperature	max. +300°C
Print bed temperature	max. +130°C
Print chamber temperature	max. +70°C

Hot ends

	Bore diameter [mm]	Recommended layer height First layer / following
Screwable M6 brass nozzles A/F8 (included in delivery)	2×0.25	0.25 / 0.10 - 0.20
	2×0.35[1]	0.35 / 0.10 - 0.28
	1×0.50[2]	0.50 / 0.20 - 0.40
	1×0.75	0.60 / 0.25 - 0.60

[1] Installed on the left hot end at delivery and preset in the Slic3r profiles available at the GitHub repository for single and dual extruder prints.

[2] Installed on the right hot end at delivery and preset in the Slic3r profiles available at the GitHub repository for support material in dual extruder prints.

Print

Print volume	200x185x280mm (10.4 liter)
Extruder head	dual extruder with two separate extruder nozzles for multi-colored and/or multi-material printing
Print bed	exchangeable 210x210mm PEI/glass fabric/carbon composite sheet
Layer height	min. 0.1mm
Reproduction accuracy	±0.1mm
Tolerance	±0.1mm

Positioning step-width axes	X=0.028mm Y=0.019mm Z=0.003mm

Material

Printable materials	ABS, PLA, HIPS, PVA, PC, PA12, PET
Filament diameter	2.85±0.1mm
Available filament qty.	0.75kg spool (200x55mm) 2.30kg spool (296x100mm)

Power and Electronics

Power consumption (total)	approx. 800W
Power supply unit	1000W with 12V(DC) connector panel, power plug and main switch 110 ... 230V(AC), 13-6.5A, 50/60Hz
Drives	3x 1.2A stepper motor (XYZ positioning drives) 2x 1.2A planetary gear drive stepper motor (extruder drives)
Stand-alone operating module	integrated capacitive 10” touchscreen controller
Integrated computer	BeagleBone Black
Machine control	RUMBA microprocessor board
Load switching	5x 15A MOSFET board
Fans	3x 119x119x25mm, 12V, 140m³/h axial fan (heat chamber circulation and cooling system) 1x 80x80x25, 12V, 33m³/h axial fan (air filter)
Network	Ethernet 10/100, RJ45

Sensors

Limit switch H-frame (X/Y) and print table (Z)	magnetic hall endstops
Filament end recognition	mechanic limit switch
Temperature sensors extruder nozzle, print table, print chamber	300°C thermistors

Closed loop water cooling system

Pump	12V(DC) circulation pump with integrated compensation reservoir
Throughput	approx. 210l/h
Radiator	120mm full copper radiator
Fan	see electronics
Hose diameter	G1/4”
Coolant	Innovatek Protect IP ready-to-use
Coolant qty.	approx. 250ml

Air filter

Air filter	fan duct with exchangeable activated charcoal container
Fan	see electronics
Filling	10g, Ø4mm activated charcoal granules

Ambient conditions

Operating temperature	+18°C ... +27°C
Storage temperature	+5°C ... +35°C
Rel. air humidity	max. 70%
Setup site	no excessive formation of dust (e.g. near woodworks, CNC machining centers)