

INSEE 320-20

E-VTOL Fixed-Wing

3 HOURS flight time

INSEE 320-20 is a high-load, long-haul, vertical take-off and landing uav. Adopt 4-axis vertical take-off and landing and tall push structure. With a wingspan of 3.2 metres, it can be fitted with more efficient motors and propellers, and has a larger battery storage cell. This can carry loads of up to 5kg, achieve a three-hour flight time, and have a wider range of applications.

Specifications

| | |
|------------------------------------|--|
| Size | Wingspan 3200mm x Length1200mm x Belly height 200mm |
| Maximum load | 5KG |
| Maximum take-off weight | 20KG |
| Positioning and navigation | GPS + GLONASS + BDS |
| Positioning accuracy | Vertical: ±0.5 m (GPS) Horizontal: ±1.5 m (GPS) |
| Maximum speed of flight | 120KM/H |
| Stalling speed | 15m/s (Fixed wing mode) |
| Fixed wing thrust-to-weight ratio | 0.64 |
| Minimum radius of circling | 130m |
| Maximum flight altitude | 4000m |
| Maximum wind resistance level | 14m/s |
| IP Grade | IP44 |
| Endurance | 3 Hours |
| Working environment | -20°C — 45°C |
| Operating frequency | 2.4G |
| Control mode | PPM/S-BUS/PWM |
| Data interface | UART (GND/TX/RX) |
| RC control distance | 12Km,(CE)/20Km,(FCC) |
| Independent gimbals control rocker | yes |
| Battery | li battery 4*30000mAh-12S |
| Packing | Aeronautical aluminum equipment box |
| Package size | 1.41*0.69*0.61m |



Wingspan: 3.2m



Flight time: 180min



Image&data: 20KM



Maximum load: 5KG



Maximum speed: 120KM/H



Celling height: 4000M

Specifications



IS2-30



IS2-30IR



IS3-30IR

Hardware Parameter

Working voltage 12V
 Input voltage 4S ~ 6S
 Output voltage 5V (connect with PWM)
 Dynamic current 500mA @ 12V
 Idle current 400mA @ 12V
 Power consumption ≤ 6W
 Working environment temp. -20°C~ +60°C
 Output micro HDMI(HD output 1080P 60fps) / IP
 Local-storage SD card (Up to 128G, class 10, FAT32 or ex FAT format)
 PWM / TTL / S.BUS / TCP (IP output version)

Control method

Gimbal Spec
 Pitch/Tilt -45~+90°
 Roll Not support
 Yaw/Pan ±300°/±360°*N (IP output only version)

Vibration angle

Pitch/Roll: ±0.02°, Yaw ±0.03°
 One-key to center √

Camera spec

Imager Sensor SONY 1/2.8" "Exmor R" CMOS
 Picture quality Full HD 1080 (1920*1080)
 Effective pixel 2.13MP
 Lens optical zoom 30x, F=4.3~129mm
 Digital zoom 12x (360x with optical zoom)
 Min object distance 10mm(wide end) to 1200mm(tele end).
 Default 300mm

Horizontal viewing angle

1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
 720p mode: 63.7°(wide end) ~ 2.3°(tele end)
 SD: 47.8°(wide end) ~ 1.7°(tele end)

Sync system

Internal more than 50dB
 S/N ratio Color 0.01lux@F1.6
 Min illumination Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE

Exposure control

Gain Auto/Manual 0dB to 50.0dB(0 to 28 steps + 2 step/ total 15 steps)
 Max.Gain Limit 10.7 dB to 50.0dB (6 to 28 steps + 2 step/ total 12 steps)

White balance

Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual

Shutter speed

1/1s to 1/10,000s, 22 steps

Backlight compensation

Yes

Aperture control

16 steps

Defog

Yes

OSD

Yes

Fotoformate

JPEG

Videoformate

MP4

Camera Object Tracking

Update rate of deviation pixel 50Hz
 Output delay of deviation pixel <10ms
 Minimum object contrast 5%
 SNR 4
 Minimum object size 32*32 pixel
 Maximum object size 128*128 pixel
 Tracking speed ±48 ~ ±192 pixel/frame
 Object memory time 100 frames (4s)
 The mean square root values of pulse noise in the object position < 0.5 pixel

Packing Information

N.W. 732g
 Product meas. 115.8*103.5*151mm/175.4mm(Viewport vision)
 Accessories 1pc gimbal camera device, screws, copper cylinders, damping balls, damping boards / High quality plastic box with foam cushion

IS2-30IR

12V ~ 16V
 3S ~ 4S
 5V (connect with PWM)
 500mA @ 12V
 400mA @ 12V
 ≤ 6W
 -20°C~ +60°C
 micro HDMI(HD output 1080P 60fps) / IP / SDI
 SD card (Up to 128G, class 10, FAT32 or ex FAT format)
 PWM / TTL / S.BUS (subject to actual product)

±90°
 Not support
 ±170° / ±360°*N (IP / SDI output)

Pitch/Roll: ±0.01°, Yaw: ±0.01°
 √

SONY 1/2.8" "Exmor R" CMOS
 Full HD 1080 (1920*1080)
 2.13MP
 30x, F=4.3~129mm
 12x (360x with optical zoom)
 10mm(wide end) to 1200mm(tele end).
 Default 300mm

1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
 720p mode: 63.7°(wide end) ~ 2.3°(tele end)
 SD: 47.8°(wide end) ~ 1.7°(tele end)

Internal more than 50dB
 Color 0.01lux@F1.6
 Auto, Manual, Priority mode(shutter priority & iris priority), Bright, EV compensation, Slow AE

Auto/Manual 0dB to 50.0dB(0 to 28 steps + 2 step/ total 15 steps)
 Max.Gain Limit 10.7 dB to 50.0dB (6 to 28 steps + 2 step/ total 12 steps)

Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual
 1/1s to 1/10,000s, 22 steps

Yes

16 steps

Yes

Yes

JPEG

MP4

50Hz

<15ms

5%

4

16*16 pixel

160*160 pixel

±32 pixel/frame

100 frames (4s)

< 0.5 pixel

IS3-30IR

14V ~ 16V
 3S ~ 6S
 5V (connect with PWM)
 850~1300mA @ 12V
 850mA @ 12V
 -
 -20°C~ +60°C
 micro HDMI(HD output 1080P 60fps) / IP
 TF card (Up to 128G, class 10, FAT32 or ex FAT format)
 PWM / TTL / S.BUS /TCP(IP output)

Pitch/Tilt: -50°~100°, Roll: ±50°, Yaw/Pan: ±300° / ±360°*N (IP output version)
 Pitch/Tilt: -45°~90°, Yaw/Pan: ±290° / ±360°*N (IP output version)

Pitch/Roll: ±0.02°, Yaw: ±0.02°
 √

SONY 1/2.8" "Exmor R" CMOS
 Full HD 1080 (1920*1080)
 2.13MP
 30x, F=4.3~129mm
 12x (360x with optical zoom)
 10mm(wide end) to 1200mm(tele end).
 Default 300mm

1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
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Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual
 1/1s to 1/10,000s, 22 steps

Yes

16 steps

Yes

Yes

JPEG(1920*1080)

MP4(1080p/720p 25fps/30fps)

50Hz

<10ms

5%

4

16*16 pixel

160*160 pixel

±32 pixel/frame

100 frames (4s)

< 0.5 pixel

1346g / 1429g(Viewport version)
 160*163.2*212.6mm(Viewport version)foam cushion

Thermal imager spec

Lens size
 Horizontal:Vertical:Diagonal FOV
 Detective Distance (Man: 1.8x0.5m)
 Recognize Distance (Man: 1.8x0.5m)
 Verified Distance (Man: 1.8x0.5m)
 Detective Distance (Car: 4.2x1.8m)
 Recognize Distance (Car: 4.2x1.8m)
 Verified Distance (Car: 4.2x1.8m)
 Working mode

Detector pixel
 Pixel size
 Focusing method
 Emissivity correction
 NETD
 MRTD
 Image enhancement

Color palette
 Auto Non-uniform correction
 Digital zoom
 Sync correct time
 Thermometry type

Temperature warning

Thermal Object Tracking
 Update rate of deviation pixel
 Output delay of deviation pixel
 Minimum object size
 Maximum object size
 Tracking speed
 Object memory time

Laser Rangefinder

Range
 Resolution
 Working current:
 Light Beam
 Divergent Angle
 Laser pulse frequency
 Power
 Ranging mode
 Location Resolving
 Ranefinder

IS2-30IR

25mm
 24.6°:18.5°:30.4°
 735 meters
 184 meters
 92 meters
 2255 meters
 564 meters
 282 meters
 Uncooled long wave
 (8µm~14µm) thermal imager
 640*480
 17µm
 Athermal prime lens
 0.01~1
 ≤50mK (@25)
 ≤650mK (@characteristic frequency)
 Auto adjust image brightness and contrast ratio

White, iron red, pseudo color
 Yes (no shutter)
 1x, 3x
 Yes
 Temperature bar (psudo color display)
 max temp, min temp,
 FOV center temp (Optional)
 0°C~100°C

IS3-30IR

25Hz
 <3ms
 16*16 pixel
 128*128 pixel
 ±32 pixel/frame
 100 frames (4s)

IS3-30IR

5~1500 meters
 0.5m
 80mA (max)
 905nm pulse laser
 3 mrad
 1HZ
 < 1 mW (safe for eye)
 Pulse
 Latitude and longitude of target
 Target distance measuring