

# Enable data-driven decision making

## Brady FR22 Product Family



The BRADY FR22 is the core device of a new family of RFID fixed systems. With this Internet of Things (IoT) Edge Device Brady has transformed conventional RFID readers into a smarter platform that is more powerful and scalable than ever. Combine this flexible device with the GA30 or BFA antenna to add even more advanced features.



Linux



Ethernet



USB



LTE



WLAN



Bluetooth



GNSS



HDMI



UHF RFID



LED indicators

## BRADY FR22 IoT Edge Device

### Fast and reliable edge computing

- High-end UHF RFID engine with very high sensitivity and controllable RFID power
- Includes Ethernet, WLAN, Bluetooth, LTE, GPIO, USB, HDMI and module extension connector
- Ability to connect external devices, sensors, triggers, lights and buzzers, via USB or GPIO port
- Full set of APIs available for controlling the device



## BRADY MUX16

### Expand read zones

- Extending read zones of one FR22 from 4 to 16
- Connected to FR22 via the extension port, without controller or cables
- Increases overall RFID efficiency



## BRADY GA30 Antenna

### High in- & outdoor reading distance

- Usable on all surfaces, including metal, and in harsh environments
- Achieve the longest RFID reading distance with a 10 dBic gain
- Extremely low axial ratio for optimal performance in every orientation



## BRADY BFA Antenna

### Track item movement

- Advanced beam-forming overhead antenna with very high read accuracy
- 28 software-controlled antenna beams allow programming of detection areas
- Integrates object movement, direction detection and sensors
- Guides users in track & trace or access control with integrated buzzer and high visibility LED

### Warranty

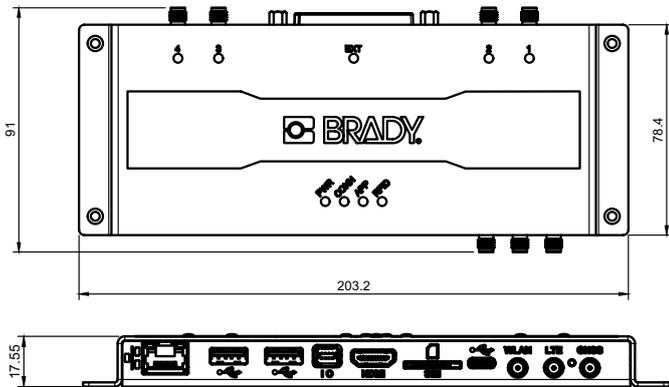
- 2 year warranty (extendable)
- Free technical support during and after warranty

### Support

- Maintenance service and extended warranty contract
- Software customization and development support
- Technology, product and integration training
- Technology and project consultation
- Project management services

## BRADY FR22 IoT Edge Device

The BRADY FR22 is the core device of a new approach for RFID fixed systems with wide communication options and a modular design.

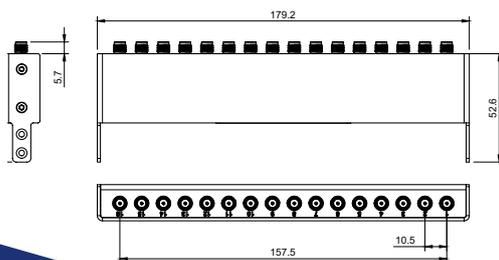


### Product options

Order Ref.	Description
B-FR22-RFID-RDR-EU	Brady FR22 Fixed RFID Reader EU
B-FR22-RFID-RDR-US	Brady FR22 Fixed RFID Reader US
B-FR22-RDR-LTE-EU	Brady FR22 Fixed RFID Reader LTE EU
B-FR22-RDR-BFA-US	Brady FR22 + BFA 915 kit US
B-FR22-RDR-BFA-EU	Brady FR22 + BFA 868 kit EU
B-FR22-RDLTE-BFAEU	Brady FR22 LTE + BFA 868 kit EU
B-FR22-Mux16-EU	Brady FR22 + Mux 16 ports kit EU
B-FR22-Mux16-US	Brady FR22 + Mux 16 ports kit US
B-FR22-Multiplex	Brady Mux 16 port multiplexer
B-FR22LTE-Mux16-EU	Brady FR22 LTE + Mux 16 ports kit EU
B-FR22-RDR-GA30-EU	Brady FR22 Fixed RFID Reader EU with GA30 Antenna
B-FR22-RDR-GA30-US	Brady FR22 Fixed RFID Reader US with GA30 Antenna
B-FR22LTE-GA30-EU	Brady FR22 Fixed RFID Reader LTE EU with GA30 antenna

### Accessories

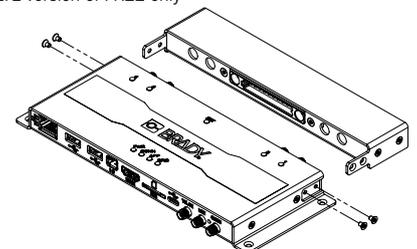
Order Ref.	Description
FR22-PSU-cord-EU	Power Supply FR22 EU
FR22-PSU-cord-UK	Power Supply FR22 UK
FR22-PSU-cord-US	Power Supply FR22 US
GPS-Antenna	Active GPS antenna
FR22-ANT-Cable-1m	FR22 antenna cable 1 m SMA-male - RP-SMA
FR22-ANT-Cable-3m	FR22 antenna cable 3 m SMA-male - RP-SMA
FR22-ANT-Cable-5m	FR22 antenna cable 5 m SMA-male - RP-SMA
FR22-ANT-Cable-10m	FR22 antenna cable 10 m SMA-male - RP-SMA
FR22-ANT-GA30-8cm	Antenna cable FR22 mounted on GA30 8cm
B-FR22-Multiplex	Brady Mux 16 port multiplexer
B-GA30-ANT	Brady GA30 antenna
B-BFA-ANT-868	Brady BFA antenna 868
B-BFA-ANT-915	Brady BFA antenna 915



### Technical Specifications

UHF RFID IDENTIFICATION	
ISO Compliance Standards	ISO 18000-63 (EPC Class 1Gen2v2)
Frequency	ETSI 865.6-867.6 MHz or FCC/IC 902-928 MHz
RF Radiated Power	+32dBm (+30dBm in FCC region)
Maximum Receive Sensitivity	-87dBm
Reading Speed	Up to 1000 tags per second
External Antenna Port	4 ports RP-SMA female
Connector	Brady extension port
PLATFORM	
Central Processing Unit (CPU)	Quad-core A7 1.1GHz
Operating System	Linux
Internal Memory Capacity	1GB RAM, 8GB Flash
USER INTERFACE	
SIM*	Mini-sim
Device Indicators	4 LEDs indicating the enabled antennas, Connection LED, Application LED, Power LED, RF LED, Extension port LED
CONNECTIVITY	
Connectivity Options	GPIO Industrial mini IO port, USB-C, USB Host, Ethernet, Bluetooth, Wireless 802.11 a/b/g/n, GSM/EDGE*, LTE-FDD B1/B3/B5/B7/B8/B20*, LTE-TDD B38/B40/B41*, WCDMA B1/B5/B8*, Brady extension port
Global Navigation*	GPS, BeiDou, Glonass
HDMI	Video 1280 x 720 and 640 x 480 resolution
POWER	
Power Supply	PoE 802.3at
Operating Power	Max 25.5W with max RFID tx level and all radios enabled. Max 18W with max RFID tx level and all radios disabled. 4W in idle state.
SIZE AND WEIGHT	
Dimensions	203.2 mm (W) x 17.55 mm (H) x 78.49 mm (D)
Weight (kg)	0.306 kg
Weight (kg) incl. MUX16	0.566 kg
ENVIRONMENT	
Ingress Protection Rating	IP20 (IP65 with GA30 back cover)
Operating Temperature	-20°C - 55°C
Storage Temperature	-40°C - 85°C
Mounting Type	4 Screws (not included)
SOFTWARE INTERFACE	
Data Management	Nordic ID RADEA
Firmware Updates	Via Web management UI and the RESTful service
Management Interface	Web Management UI and SSH for developers
IP Address Configuration	IPv4 DHCP, Static IP
API Support	NUR API for RFID and RESTful service to access reader configuration
Software Development	Application can be written with modern programming languages. Compatible with existing Nordic ID fixed readers. Ready-to-use Nordic ID NUR API that provides full control over the reader. Ready-to-use Nordic ID NUR API that provides full control over the reader. MQTT support (broker or client).
Security	TLS v1.3, WLAN profiles: WPA2-Personal and WPA2-Enterprise (PEAP-MSCHAPv2 and EAP-TTLS/PAP)

(\*) The feature is available in the LTE version of FR22 only

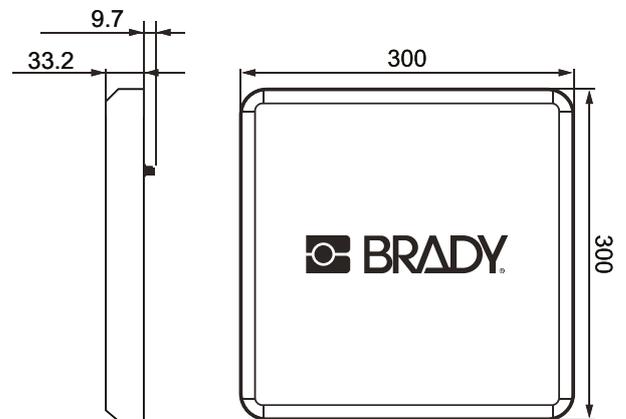


## BRADY GA30 Antenna – General antenna for rugged environments

Brady GA30 is a general-purpose antenna with a very high gain and is ideal for harsh environments where IP rating is needed.

### Technical Specifications

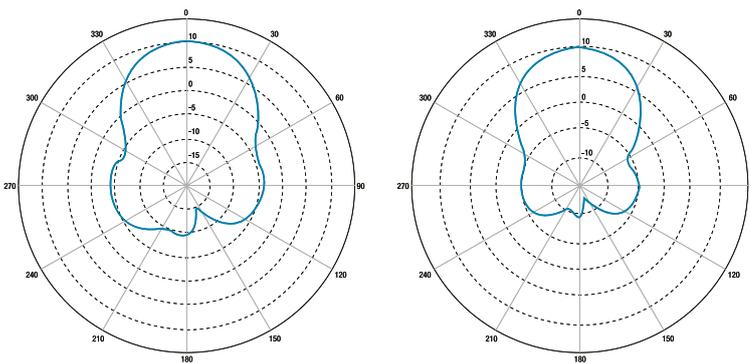
UHF RFID	
Frequency	Wide band 865 MHz - 928 MHz
Antenna Features	10 dBic RHCP Polarisation
Beam Width	50° / 50°
Input Impedance	50 Ω
VSWR	< 1.5:1
Power Requirements	Max 2W input power
Front-to-back Ratio	20 dB
Axial Ratio	< 0.5 dB
External Antenna Port	SMA Female connector
SIZE AND WEIGHT	
Dimensions	300.00 mm (W) x 300.00 mm (H) x 33.20 mm (D)
Weight (kg)	0.86 kg
Weight with FR22 (kg)	1.166 kg
ENVIRONMENT	
Operating Temperature	-20°C - 55°C
Storage Temperature	-40°C - 85°C
Ingress Protection Rating	IP65



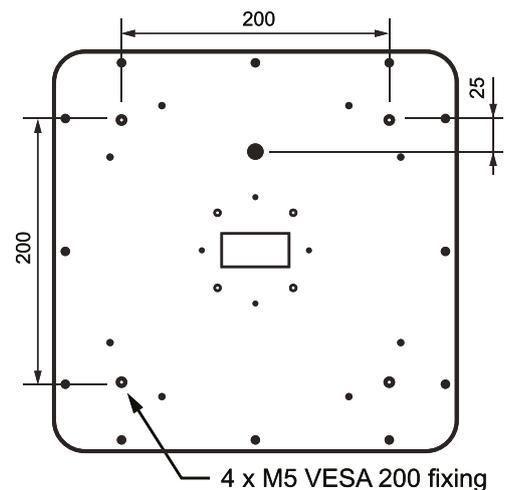
### Product options

Order Ref.	Description
B-GA30-ANT	Brady GA30 antenna
B-FR22-RDR-GA30-EU	Brady FR22 Fixed RFID Reader EU with GA30 Antenna
B-FR22-RDR-GA30-US	Brady FR22 Fixed RFID Reader US with GA30 Antenna
B-FR22LTE-GA30-EU	Brady FR22 Fixed RFID Reader LTE EU with GA30 antenna

### Antenna radiation pattern



### Mounting (VESA fixing)



Note about VESA fixing points: the maximum thread depth is 7 mm and the maximum allowed torque is 8 Nm.

# BRADY BFA Antenna - beam forming antenna that can detect movement

BRADY BFA is an advanced beam-forming overhead antenna with 28 software-controlled beams and an integrated movement and direction detection sensor.

## Technical Specifications

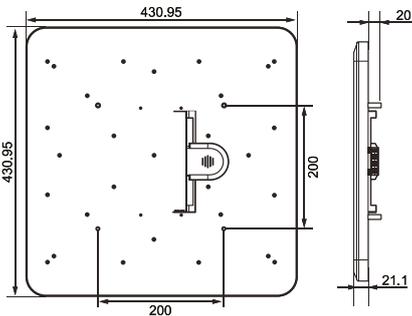
UHF RFID	
Frequency	ETSI 865.6-867.6 MHz or FCC/IC 902-928 MHz
Antenna Features	Max gain 8dBi
Beam Width	40° / 60°
Beam Forming Features	28 individual beams with dual polarisation
Beam Tilt Angles	0°, ±15°, ±30°, ±45°
Front-to-back Ratio	20 dB
Connector	Brady extension port
SENSORS AND INDICATORS	
Sensor	Time of flight sensor
Device Indicators	Buzzer for sound indications, 8 high visibility LED bars
SIZE AND WEIGHT	
Dimensions	430.95 mm (W) x 430.95 mm (H) x 21.10 mm (D)
Weight (kg)	0.86 kg
Weight with FR22 (kg)	1.166 kg
ENVIRONMENT	
Operating Temperature	-20°C - 55°C
Storage Temperature	-40°C - 85°C
Ingress Protection Rating	IP20



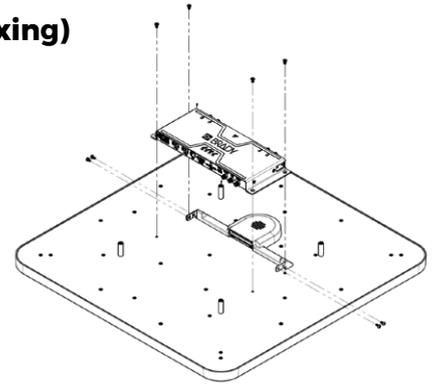
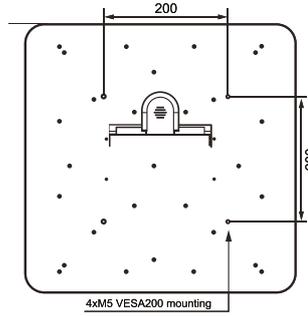
## Product options

Order Ref.	Description
B-BFA-ANT-868	Brady BFA antenna 868
B-BFA-ANT-915	Brady BFA antenna 915
B-FR22-RDR-BFA-US	Brady FR22 + BFA 915 kit US
B-FR22-RDR-BFA-EU	Brady FR22 + BFA 868 kit EU
B-FR22-RDLTE-BFAEU	Brady FR22 LTE + BFA 868 kit EU

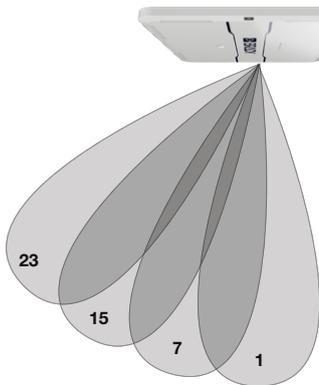
## Antenna dimensions (mm)



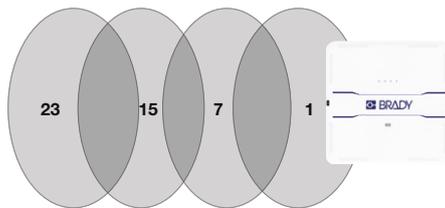
## Mounting (FR22 + VESA fixing)



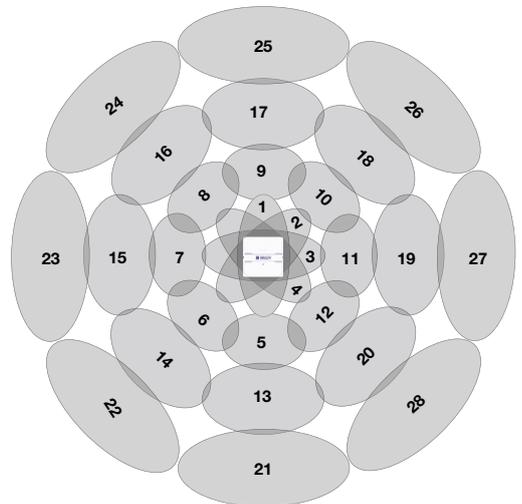
## Antenna beams radiation patterns (beams not represented in scale)



Side view of 1/8 of the beams



Top view of 1/8 of the beams



Top view position of the 28 beams (represented coverage is not real, as overlaps among beams is much higher than drawn here)