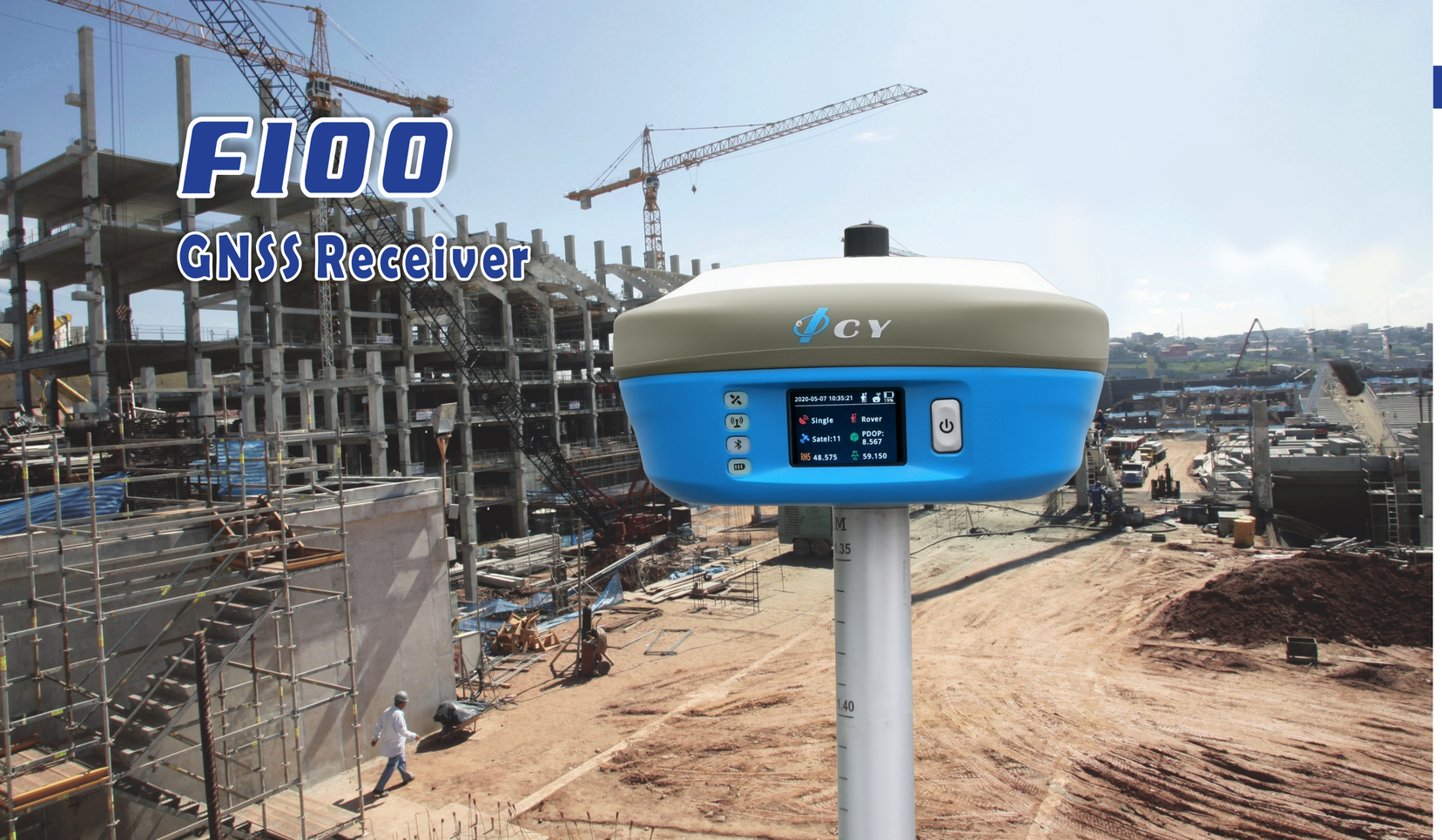

Key Features

Tilt survey: Accurately, Efficiently, Conveniently

- Tilting does not require tedious initialization. After getting fixed, circling and shaking can directly make the receiver become “Ready”.
- Support for the pole calibration, and any of the pole can be used. Higher precision and more reliable data can be obtained after calibration.
- Maximum tilt angle can be up to 60°, accuracy ranges from 2cm to 5cm depending on the tilt angle.
- Dynamic accurate measured, from now on you can do the surveying while moving, measuring and staking points without centering.

Color LCD Display, multi-touch

- Industrial level dustproof and waterproof grade
- high brightness, full liquid crystal, full color
- support touch screen and full screen gestures,
- 1.45 "color display capacitive screen,

Longer battery life, shorter charging time

- Built-in battery(13600mAh) for longer lasting operation
- USB-PD quick charge +Type C interface

Improved built-in radio(5W), support effective working distance 10KM

❶ **Satellite indicator light**
Extinguish: No receiving satellites
Blink red: Satellites receivde,but not positioning success
Blink green: Positioning success,but not fixed
Green light on: Fixed solution
Red/Green lights flicker alternately; GNSS motherboard dysfunction

❷ **Datalink indicator light**
Green light on: Datalink setup success
Blink green: Data transmission
Blink blue: Blue light flashes according to the set static smpling interval

❸ **Bluetooth indicator light**
Extinguish: No Bluetooth connection
Blue light on: Bluetooth connextion with device

❹ **Power indicator light**
Green light on: Electric quantity: 30%-100%
Blink green: Electric quantity: 10%-30%
Blink red: Electric quantity:<10%, beeping sound: interval per second
Rde light on when charging,green light on after charging

❺ **Power button**
Power button,used to start and close devices

❻ **Display**
1.45-inch color touch screen,used for interface display and settings

❶ **5pin**
To connect external power supply and external radio

❷ **Type-c**
For charging and data transfer

❸ **SIM**
NANO SIM Card

CE Certificate | 5W Radio | 13600mAh | All constellation | BD990 | IP67 | Tilt Survey | Touch Panel

Technical Parameters

• GNSS Performance

Board	BD990
Channel	336
Satellites	
GPS	L1CA/L2E/L2C/L5
GLONASS	L1CA/L2CA/L3CDMA
BDS	B1/B2/B3
Galileo	E1/E5A/E5B/E5AltBOC/E6
NAVIC	L5
QZSS	L1CA/L1SAIF/L1C/L2C/L5
SBAS	L1CA/L5

• Position Accuracy

Static	
Horizontal	$\pm(2.5+0.1\times10^{-6}\times D)$mm
Vertical	$\pm(5.0+0.4\times10^{-6}\times D)$mm
RTK	
Horizontal	$\pm(8.0+1\times10^{-6}\times D)$mm
Vertical	$\pm(15+1\times10^{-6}\times D)$mm
Update Rate	Up to 50Hz

• System

Operation System	Linux
Button	Power On/Off; Report current working mode & Status
Indicators	Satellites /Datalink /Bluetooth/ WIFI Status/Power
Voice Guide	TTS Multi Language Voice
Tilt Survey	Support
Accuracy	2cm @ 30°tilt 5cm @ 60°tilt (Note: Rod height 1.8m)

• Interface

TNC	UHF Antenna
5pin	External Radio and External Power
Type-C	For charging and Data Transmission
Other	Nano SIM Slot

• Communication

Radio	TRM501 (5W Power)
Radio frequency	403-470MHz
Protocol	Trim Talk 450S, PCC, Satel, Hi-Target(9600), Hi-Target(19200), Trim Talk(4800), HZSZ, South(9600), South(19200), TrimMarkIII
Network	Global Network Module (EG25-G) LTE FDD: B1/B2/B3/B4/B5/B7/B8 /B12/B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8
Bluetooth	BT5.0, BLE
WIFI	802.11 b/g/n

• Physical and storage

Dimensions	154*154*76mm (LxWxH)
Weight	1.55kgs
Screen	1.45-inch TFT LCD Display
Work Temperature	-30℃~+65℃
Stock Temperature	-40℃~+80℃
Ingress Protection	IP67 Standard
Shock & Vibration	Withstand 2m along with rod drop onto hardwood floor,1.2m drop without pole
Internal Memory	32GB
Humidity	100% Condensing