Spot CORE I/O

Spot CORE I/O enhances both the computation and communications available on the Spot platform.

Easily configure inputs such as sensors, cameras, and other devices to Spot and process data collected into actionable insights.

Features

- Compact CPU and GPU with customizable inputs and outputs
- 5, 12, and 24V regulated power output
- RJ45 standard ethernet adapter
- Easy cable sealing to maintain IP54 rating
- Built-in 5G/LTE modem with CBRS support for private networks and option to use AT&T’s public network
- Option to add lidar for enhanced autonomy (see Spot EAP 2)
- Comes with sample computer vision model

www.bostondynamics.com/products/spot/payloads
Specifications

**DIMENSIONS**
- **Length** = 224 mm (8.8 in)
- **Width** = 173 mm (6.8 in)
- **Height (with antenna)** = 246 mm (9.7 in)
- **Height (without antenna)** = 64 mm (2.5 in)
- **Mass/Weight (with antenna)** = 2.8 kg (6.3 lbs)
- **Mass/Weight (without antenna)** = 1.4 kg (3.2 lbs)

**PROCESSING (JETSON XAVIER NX)**
- **CPU** = 6-core NVIDIA Carmel ARM V8.2 64-bit CPU with 6MB Lw + 4MB L3 cache
- **GPU** = 384-core NVIDIA Volta GPU with 48 Tensor cores
- **Memory** = 16GB 128-bit LPDDR4x at 51.2 GB/s

**CONNECTIVITY AND STORAGE**
- **5G/LTE** = User-installable SIM card
- **Ethernet** = GbE interface, unmanaged 2 port Ethernet switch for additional connectivity
- **Storage** = 512GB SSD*
- **USB 3.1** = 2x USB 3.1 ports with support for 4.5W
- **USB-C** = 1x USB-C port with support for 50W power delivery and video out
- **SD Card** = 1x SD card slot
- **Other Connections** =
  - E-Stop interface
  - PPS output
  - GPIO (Configurable to PWM output)
  - I2C Ports
- **Power Outputs** =
  - 48V or robot battery voltage for Spot Explorer models
  - 24V, 50W
  - 12V, 50W
  - 5V, 30W

**SECURITY**
- **Disk Encryption** = SSD encrypted with standard LUKS technology
- **Network Encryption** = Connections encrypted with TLS 1.2 and 1.3
- **Authentication** = Access to services restricted to authenticated users
- **Secure Boot** = Tamper-proof filesystem with hardware root of trust
- **Firmware Verification** = Firmware updates must be cryptographically signed

**MODEM SUPPORTED BANDS (TELIT FN980)**
- **Regions** = North America, EMEA, APAC
- **5G FR1** = n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
- **LTE** = 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29DL, 30, 32, 34, 38, 39, 40, 41, 42, 43, 46(LAA) 48(CRS), 66, 71
- **WCDMA** = 1, 2, 3, 4, 5, 6, 8, 9, 19

**ENVIRONMENT**
- **Storage Temperature** = -40 to 70°C
- **Operating Temperature** = -20 to 45°C
- **Ingress Protection** = IP54

*Actual storage available will be less due to Spot CORE I/O's operating system.
†Noted bands will be supported in a future release.