# XD Console

**TOPCON**

## 7" Customizable In-Cab Display

Designed with the future in mind, the Topcon XD touchscreen console, including revamped proprietary (Horizon) software and Topcon Agriculture Platform (TAP) integration, allows full-feature customization. Customers can optimize investment by paying only for capabilities they need.

Off-the-shelf features include Guidelines, Tasks, ISO-UT, and TAP Market. All additional Horizon OS features are easily accessible and unlockable utilizing TAP via the console or personal device.

Coupled with Topcon receivers, steering control, and correction services; the new level of customization allows flexible guidance solutions, priced right. Plus, with the complete Horizon OS feature-set including compatibility to the full-range of Topcon sensors and application control technology, the XD is ready for even the most progressive operations.

### PHYSICAL

| | |
|---|---|
| Housing | Front cover: PC/ABS, colored black with rubber frame<br>Back cover: Aluminum die cast, colored black |
| Dimensions (l x w) | 5.7 x 8.8 in. / 144.4 x 223.7 mm |
| Mounting | Landscape or portrait / Standalone |

### DISPLAY

| | |
|---|---|
| Type | TFT Color Graphic LCD with LED backlight |
| Size (w x h) | 7 in. / 152 x 91 mm |
| Resolution | 800 x 480 px (WVGA), 15:9 |
| Colors | 262k |
| Brightness | 400 cd/m² |
| Contrast ratio | 500:1 |

### INPUT DEVICES

| | | |
|---|---|---|
| Touch | PCT | |
| Indicators and sensors | – Light sensor<br>– 1 Multicolor-LED | – 3 Status-LED's |
| IP rating | IP65 | |

### ELECTRONICS

| | | |
|---|---|---|
| Processor platform | CPU: NXP I.MX6®, dual, 800MHz<br>RTC: Buffered by gold cap | Mass storage: 4GB<br>RAM: 1024MB |
| Speaker | 80 dB @ 1kHz in 1 m distance | |
| Power supply | System supplied through terminal 30 (battery) and 31 (battery)<br>Terminal 15 (ignition) to be used to switch on/off<br>Operating voltage range: 9 – 36 V DC<br>Short circuit operation<br>Over-voltage protection up to 48 V for max. 5 minutes<br>Inverse polarity protection up to -48 V DC for max. 5 minutes | |

| Current consumption (without external load), max. | Power mode | Current at 13,5 VDC | Current at 27 V |
|---|---|---|---|
| | On | ≤ 1000 mA | ≤ 600 mA |
| | Low-power | Depending on config | |
| | Sleep | ≤ 100 mA | ≤ 65 mA |
| | Off | ≤ 2 mA | ≤ 2 mA |

### INTERFACES

| | | |
|---|---|---|
| CAN Bus | 2 x CAN-Interfaces<br>ISO 11898, CAN-specification, 2.0 B active<br>Up to 1MB (default 250KB, 500KB, 750KB and 1MB) | |
| RS-232 | 1 x RS232-Interface<br>Type: EIA232 (only RxD, TxD, GND) | Speed: Max. 115 Kbps |
| USB | Main connector: 1 x High speed | Host 2.0 |
| Inputs | 4 configurable analog/digital inputs<br>Over-voltage protection: Up to 36 VDC<br>Short circuit protection: Up to 36 VDC<br>Frequency: Max. signal frequency 50 Hz | Input impedance: > 3k Ohm<br>Resolution: 10 bit (1024 digits)<br>Voltage range: 0-12 V |
| Outputs | 2 digital outputs<br>Short circuit protection: Up to 36 V<br>Imax 300 mA open drain | RDS,on < 1 Ohm<br>RDS,off > 100 kOhm |
| Video-Interface | 1 analog video inputs<br>1 Vss<br>Ampacity 500 mA @ 12V DC | Camera control output (open drain) for special functionality (mirror, shutter, heating, etc.), 300mA @ 12V DC |
| Ethernet-Interface | 1 x 10/100MB Base | |
| Audio | 1 Audio output (left, right, GND)<br>Output power: approx. 50 mW | AC97 compatible |

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## CONNECTORS

| | | |
|---|---|---|
| Main | Tyco-AMP 1437288-6 | Mating connector (customer) Tyco-AMP 3-1437290-7 |
| | Mating crimp contact (customer) | Tyco-AMP 3-1447221-4 |
| Video | M12 round connector, female, 5-pole, B-coded, acc. to EN 61076-2-101 | |
| Ethernet | M12 round connector, female, 4-pole, D-coded acc. to EN 61076-2-101 | |

## SOFTWARE

| | | |
|---|---|---|
| Operating System | Linux Kernel 3.0.0 or higher | |
| Application Programming | – Wachendorff Projector Tool | – Optional: ISO-UT |

## TESTING AND VERIFICATION

| | | |
|---|---|---|
| CE-Compliance | EU Directive 2014/30/EU (EMC) according to • EN 12895: Industrial Trucks – Electromagnetic compatibility • EN 13309: Construction machinery – Electromagnetic compatibility of machines with internal electrical power supply • EN ISO 14982: Agricultural and forestry machinery – Electromagnetic compatibility | – Test methods and acceptance criteria |
| E1 – Type approval | EU Directive ECE R 10.4 (Dec 2013) | |
| Protection Level (IP Code) | IP65K and IP66K according to ISO 20653: Road Vehicles – Degrees of protection (IP-Code) | – Protection of electrical equipment against foreign objects, water and access |
| Electrical | 12 and 24 V – Systems according to: • ISO 16750-2: Road Vehicles

• ISO 15003: Agricultural Engineering | – Environmental conditions and testing for electrical and electronic equipment – Electrical loads – Testing resistance to environmental conditions – Electrical and electronic equipment |
| Mechanical | • ISO 16750-3: Road Vehicles

• ISO 15003: Agricultural Engineering

• Mechanical Shock: Level 2 • Random Vibration: Level 2 • Sinusoidal Vibration: Level 2 | – Environmental conditions and testing for electrical and electronic equipment – Mechanical loads, Code L – Electrical and electronic equipment – Testing resistance to environmental conditions |
| Climate | • ISO 16750-4: Road Vehicles

• Operating Temperature Range: • Storage Temperature Range: • ISO 15003: Agricultural Engineering | – Environmental conditions and testing for electrical and electronic equipment – Climatic Loads -30°C to 65°C -40°C to 85°C – Electrical and electronic equipment – Testing resistance to environmental conditions |

## Complementary Products



**Rooftop Receivers**
AGM-1 manual guidance
AGI-4 receiver/steering controller



**Steering Control**
Retrofit steering solutions (AES-35
and Danfoss EHi Steering Valve)



**Correction Services**
Full range through base stations
(HiPer VR and MR-2) and reference
station networks (TopNET)



**Cloud Connectivity Devices**
CL-10 and CI-55 for automatic
data upload to TAP



**Tilling, Seeding, Crop Care Control**
Leading tilling, seeding, planting,
spraying, and spreading control



**Crop Health Monitoring**
Nutrient sensor for optimized
and on-the-go application

# XD Console

## Pay only for what's needed. Explore all XD feature unlocks below.

| Feature | Description | XD (Customizable) |
|---|---|---|
| **Guidance** | | |
| **Guidelines** | *Basic guidance, including on-screen waylines and lightbar. | Included |
| **Autosteer** | *Automatic steering Included with 30 cm SBAS correction services. Access to full range of correction networks, including satellite, cellular, Wi-Fi and base station, down to 2 cm RTK. | Unlock |
| **Headland Turns** | Automatically generate and execute turn at end of row for seamless transition into next pass. | Unlock |
| **Tramlines** | Visualize and optimize waylines with respect to application machinery width. | Unlock |
| **Controlled Traffic** | View multiple guidance paths (up to 20) at the same time with operating waylines easily differentiated from surrounding tasks. | Unlock |
| **Machine to Machine\*\*\*** | *Collaborate multiple machines (up to 100) on a single task and share data in real time. Includes integrated automatic section control to prevent accidental application. | Unlock |
| **XTEND** | *Extend user interface of console to mobile iOS or Android device. | Unlock |
| **Cameras** | *Enable display for digital cameras (up to 4 AgCams). | Unlock |
| **Third-party NMEA Receivers** | Support for third-party NMEA and NMEA 2000 receivers to provide GNSS position information to the console. | Unlock |
| **External Applications** | Enable display for Topcon approved third-party software applications. | Unlock |
| **Digital Farm Management** | | |
| **Tasks** | Task management including data logging and full stack of geospatial field profiling tools. | Included |
| **TAP Fields\*\*** | Easily manage subscriptions, upload and manage all farm data. Includes Market, Dashboard, Storage and Fields apps. | Included |
| **TAP Pro** | *Constant connectivity, enabling Automatic Sync, Fleet Management and Remote Support. | Unlock |
| **Weather Station** | *Enable display for AirMar 150WX Weather Station. | Unlock |
| **Monitoring, Mapping and Logging** | | |
| **CropSpec Monitoring** | *Enable display for CropSpec Crop Monitoring solution. | Unlock |
| **Yield Monitoring** | *Enables display for Topcon real-time yield monitoring, mapping and logging solution. | Unlock |
| **Implement and Application Control** | | |
| **Auto Section Control** | *Automatic section control for compatible application controllers. | Unlock |
| **Variable Rate Control** | *Variable rate control for compatible application controllers. | Unlock |
| **Additional Seeder Tanks** | *Adds support for seeder implements with 3 or more tanks. | Unlock |
| **Additional Spreader Bins** | *Adds support for spreader implements with dual belts and up to 4 bins. | Unlock |
| **Additional Sprayer Tanks** | *Adds support for sprayer implements with up to 4 tanks. | Unlock |
| **Boom Height Control** | *Enable display for Norac boom height control solution. | Unlock |
| **Hypro ProStop-E** | *Support for Hypro Pentair CAN controlled nozzle system to provide individual nozzle control on the boom. | Unlock |
| **Water Conservation** | *Enable display for access to full suite of Topcon landforming technology, including survey, design and execution. | |
| **ISOBUS Control** | | |
| **ISO-UT** | Display compatibility for ISOBUS protocol solutions. | Included |
| **ISOBUS Implement Profiles** | *Enables display for ISOBUS implement control and task logging, up to 2 products. | Unlock |
| **Additional ISOBUS Products** | *Adds support for up to 4 ISO products. | Unlock |

*Additional hardware required.          **TAP Fields is only free for first year.          ***Future release.

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