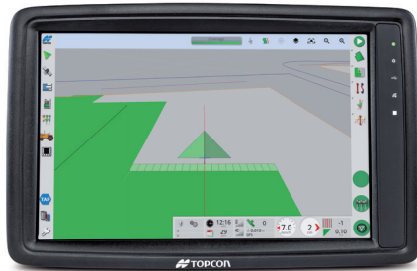# XD+ Console

12.1"
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 unlocked features include Guidelines, Tasks, ISO-UT, and TAP Market. All additional Horizon 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 provides flexible guidance solutions, priced right. Plus, with the complete Horizon feature-set including compatibility with the full-range of Topcon sensors and application control technology, the XD+ is ready for even the most progressive operations.

PHYSICAL	
Housing	Aluminum back-housing, plastic front-housing, black with rubber frame
Dimensions (l x w)	8.4 x 13 in. / 214 x 330 mm
Mounting	Landscape or portrait / Standalone / In-dash

DISPLAY	
Type	TFT Color Graphic LCD with LED backlight
Size (w x h)	12.1 in. / 261 x 163 mm
Resolution	1280 x 800 px (WVGA), 16:10
Colors	16.7 Million
Brightness	1000 cd/m^2
Contrast ratio	750:1

INPUT DEVICES			
Touch	PCT		
Indicators and sensors	– Light sensor	– 1 Multicolor-LED	– 3 Status-LED's

ELECTRONICS			
Processor platform	CPU: NXP I.MX6®, quad core, 1GHz RTC: Buffered by gold cap		Mass storage: 8GB RAM: 1GB
Speaker	80 dB @ 1kHz in 1 m distance		
Power supply	Operating voltage range: 9 – 36 V DC Protection: Short circuit protection Overvoltage resistance: 48 V for max. 5 minutes Inverse polarity protection: Up to -48 V DC for max. 5 minutes		
Current consumption (without external load), max.	Power mode On Low-power Sleep Off	Current at 13.5 VDC ≤ 1.8 A Depending on config ≤ 0.2 A ≤ 2 mA	Current at 27 V ≤ 0.7 A ≤ 0.1 A ≤ 4 mA

INTERFACES		
CAN Bus	2 x CAN-Interfaces ISO 11898, CAN-specification, 2.0 B active Up to 1MB (250KB, 500KB, 750KB and 1MB)	
RS-232	1 x RS232-Interface Type: EIA232 (only RxD, TxD, GND) Speed: Max. 115 Kbps	
USB	Main connector: 1 x High speed	
Inputs	4 configurable analog/digital inputs Input impedance: > 3k Ohm Resolution: 12 bit (1024 digits, 1 digit ~ 3 mV) Input range: 0-12 V or 4-20 mA, or 0-20 mA Max. protectable input voltage: 36 VDC Protection: Short circuit protection Frequency: Max. signal frequency 50 Hz	
Outputs	3 digital outputs Short circuit protection: Up to 36 V Imax 300 mA open drain at 12 V	RDS on < 1 Ohm RDS off > 100 kOhm
Video-Interface	Inputs: 3 x analog (2 live steams) Camera supply: 12 VDC Output: 1 x camera control output (open drain) for special functionality (mirror, shutter, heating etc.)	Vss : 1 V Max. current: 500 mA Ampacity 300 mA
Ethernet-Interface	1 x 10/100MB Base	
Audio	1 x Audio output (left, right, GND) Output power: approx. 65 mW @ 32 Ohm	

XD+ Console

CONNECTORS	
Main	Tyco-AMP 3-1437290-7
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
Application Programming	– OPUS Projector – ISO-UT

TESTING AND VERIFICATION	

CE-Compliance	EU Directive 2014/30/EU (EMC) according to
	• EN ISO 13766-1: Earth-moving and building construction machinery
	  – Electromagnetic compatibility (EMC) 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
Protection Level (IP Code)	IP65 and IP66 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 – Environmental conditions and testing for electrical and electronic equipment
	                                        – Electrical loads
	• ISO 15003: Agricultural Engineering – Electrical and electronic equipment
	                                        – Testing resistance to environmental conditions

Mechanical	• ISO 16750-3: Road Vehicles – Environmental conditions and testing for electrical and electronic equipment
	                                        – Mechanical loads, Code L
	• ISO 15003: Agricultural Engineering – Electrical and electronic equipment
	                                        – Testing resistance to environmental conditions
	• Mechanical Shock: Level 2
	• Random Vibration: Level 2
	• Sinusoidal Vibration: Level 2

Climate	• ISO 16750-4: Road Vehicles – Environmental conditions and testing for electrical and electronic equipment
	                                        – Climatic Loads
	• Operating Temperature Range: -30ºC to 65ºC
	• Storage Temperature Range: -40ºC to 85ºC
	• ISO 15003: Agricultural Engineering – 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 Cl-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
Thirdy-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.	Unlock
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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