

**TCP-Digital Terrain Model V8.5**  
**Module Features Comparison**



<b>POINTS AND POINT CLOUDS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Import and export from/to different file formats	■	■		
Creation from drawing entities	■	■		
Creation from alignment and cross-sections	■	■		
Conversion of AutoCAD point clouds	■	■		
Point editing	■	■		
Automatic drawing from point codes	■	■		
Rotate and move points	■	■		
<b>SURFACES</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Import and export from/to different file formats	■	■		
Breakline drawing and editing	■	■		
Breakline error detection	■	■		
Creation of surfaces from points	■	■		
Creation of surfaces from 3D polylines	■	■		
Interactive surface editing	■	■		
Drawing as 3D faces, solids, polylines or meshes	■	■		
Creation of esplanades from terrain or esplanade height		■		
Earthworks by cut or fill head or foot		■		
Final ground calculation		■		
Fill holes and repair triangulation errors	■	■		
Optimum esplanade height calculation		■		
<b>MESHES</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Calculation from points	■	■		
Calculation from surfaces	■	■		
Calculation from contours	■	■		
Mesh as current surface	■	■		
Drawing of meshes as 3D faces, polyfaces or image	■	■		
Mesh smoothing	■	■		
Remove peaks	■	■		
Fill holes	■	■		
Import of Web Coverage Services (WCS)	■	■		
<b>CONTOURS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Contour generation from surface	■	■		
Contour generation from meshes	■	■		
Contour editing	■	■		
Contour labeling automatic, manual or by direction lines	■	■		
Labeling of special contours	■	■		
Elevation of polylines to contours	■	■		
Contour smoothing	■	■		
Contour generalization		■		
Contour filtering		■		
Contour interpolation		■		
Contour splitting and joining	■	■		
Special height contours	■	■		
Contour separation	■	■		
Splines conversion	■	■		
Elevation error detection	■	■		
Import GIS files	■	■		
Export GIS files	■	■		
Import of Web Feature Services (WFS)	■	■		
<b>HORIZONTAL ALIGNMENTS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Definition of alignments from lines, arcs and clothoids	■	■		
Fixed, coupled, revolving and mobile alignment calculation		■		
Alignment editing		■		
Alignment library		■		
Conversion of polyline to alignment	■	■		
Alignment utilities	■	■		
Checking of road regulations	■	■		
Import and export from/to different file formats	■	■		
Alignment dimensioning	■	■		
Generation and editing of superelevations		■		
Generation and editing of widenings		■		
Distances among alignments	■	■		
Drawing of 3D polylines	■	■		
Alignment data tables		■		
Alignment intersections		■		
Acceleration and deceleration lanes		■		

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Roundabouts links		■		
<b>PROFILES AND CROSS SECTIONS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Quick profile	■	■		
Profiles and cross sections from point clouds				
Cross section calculation from surface or mesh	■	■		
Cross section calculation from 3D polylines	■	■		
Cross section calculation by regression	■	■		
Automatic update of profile drawing	■	■		
Cross section editing	■	■		
Conversion of cross sections from drawing	■	■		
Drawing of terrain cross sections	■	■		
Drawing of compound cross sections		■		
Label station and elevation	■	■		
Numerical data definition	■	■		
Heights report by interval	■	■		
Drawing of cross sections in plan view	■	■		
Multiple cross sections drawing	■	■		
Final ground cross section generation		■		
Polyline projection on cross sections	■	■		
Cross section utilities	■	■		
Import and export from/to different file formats	■	■		
<b>VERTICAL ALIGNMENTS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Graphical and numerical definition		■		
Conversion from polyline		■		
Circular and parabolic vertical curves		■		
Automatic update		■		
Vertical alignment editing		■		
Points on profile analysis		■		
Best-fit vertical alignment		■		
Checking of road regulations		■		
Visibility report		■		
Import and export from/to different file formats		■		
<b>NETWORKS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Import networks in LandXML, JSON formats		■		
Drawing of network nodes		■		
Creation of nodes from points or blocks		■		
Drawing of network edges		■		
Creation of network edges from polylines 2D or 3D		■		
Drawing of edges in front view		■		
Drawing of edges over cross-sections		■		
Drawing of network in 3D		■		
Templates in front view		■		
Export of networks to shape, LandXML, JSON formats		■		
<b>TEMPLATES</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Definition of platforms		■		
Definition of ditches		■		
Definition of slopes		■		
Definition of roadbeds		■		
Definition of walls and structures		■		
Definition of geology		■		
Assignment of templates to stations		■		
Conversion of templates from drawing		■		
Plan view		■		
Reinforcements		■		
<b>STAKEOUT</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Drawing and editing of stakeout stations	■	■		
Points stakeout		■		
Stakeout with respect to an alignment		■		
Points calculation and analysis		■		
Layers stakeout		■		
Lines stakeout		■		
Simple template stakeout		■		
Point analysis on alignment and terrain		■		
Elevations report		■		
Vertices report		■		

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<b>QUANTITY TAKE-OFF</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Volumes by meshes difference	■	■		
Volume by cross-sections difference	■	■		
Volume by parcels	■	■		
Volume report		■		
Quick volume calculation		■		
Area and volume reports		■		
Cross-sections measurements report		■		
Roadbed layers measurements report		■		
Volume by simple template		■		
Volume by zones		■		
Mass diagram		■		
Work units database		■		
Life cycle analysis database		■		
Assignment of work units to earthworks		■		
Assignment of work units to roadbed layers		■		
Assignment of work units to drawing entitites		■		
Work units report		■		
Material execution budget report		■		
Consumptions and emissions report		■		

  

<b>MAPS/RENDER</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Route by terrain	■	■		
Route by road		■		
Elevation map	■	■		
Slope map	■	■		
Visibility map	■	■		
Customizable color palettes	■	■		
Material management	■	■		
Insertion of 3D objects	■	■		
Export to KML, 3DS, SKP, DAE	■	■		
Import from Google Earth (KML)	■	■		

  

<b>IMAGES</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Insertion of georeferenced images	■	■		■
Insertion of pictures with location				■
Insertion of UAV pictures				■
Insertion of images from WMS services	■	■		■
Change resolution of image				■
Change size of image				■
Flip and rotate image				■
Adjust brightness, contrast, hue, saturation and gamma of image				■
Delimit image				■
Cut and paste images				■
Georeference images				■
Update georeferencing	■			■
Distort image				■
View EXIF information				■

  

<b>PLOTS</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Import of plots in shape, LandXML, GML formats	■	■		
Creation of plots from polylines	■	■		
Creation of plots from points	■	■		
Creation of plots from drawing	■	■		
Definition of islands	■	■		
Definition of building and other constructions	■	■		
Dimensioning of plots	■	■		
Labelling plots	■	■		
Plot report	■	■		
Plot plans	■	■		
Divide plots	■	■		
Join plots	■	■		
Export plots to shape, LandXML, GML, DA formats	■	■		

  

<b>BIM</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Export surfaces to IFC	■	■		
Export earthworks to IFC		■		
Export alignments and roadbed layers to IFC		■		
Import surfaces from IFC	■	■		
Import alignments from IFC		■		
View road IFC files		■		

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Definition of properties sets	■	■		
Assignment of properties	■	■		
Classification of objects	■	■		
Export IFC to BIMserver.center	■	■		

<b>UTILITIES</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Sheet drawing	■	■		
Entities elevation	■	■		
Drawing of crosses, ticks and coordinates	■	■		
Drawing of slopes	■	■		
Layer tools	■	■		
Dimensioning tools	■	■		
Access to technical support	■	■		

<b>SURVEYING</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Conversion of total station measurement files			■	
Instruments table			■	
Point and station calculation			■	
Direct and inverse intersection			■	
Trigonometric leveling			■	
Traverse compensation			■	
Network compensation			■	
Reliability and goodness of fit tests			■	

<b>GEODESY</b>	<b>Standard</b>	<b>Professional</b>	<b>Surveying</b>	<b>Images</b>
Coordinate transformations			■	
Transform from/to local systems			■	
Ellipsoids, datums and coordinate systems management			■	
Geodesic calculator			■	
Drawing transformations			■	
Import of GPX files			■	