## RAYGUE



Function (v2.18)	RAYGUIDE	CLICK & TEACH	МАТСН
Device configuration			
Unlimited number of controller cards (with auto-connect option)	0	0	0
Master-Slave Mode selectable (2-times SL2 or 2-times RL3 protocol)	0	0	0
Import / Export of device configuration	0	0	0
Laser diagnostic feature	0	0	0
Deflection Unit			
Automatic setting of tracking error values	0	0	0
Rotation, flipping of coordinate axis	0	0	0
Field calibration (scale, offset, rotation) and bias for any z-axis	0	0	0
Focus finder tool	0	0	0
Direct access to Multi-Point Editor for XY and Z-calibration	0	0	0
Status display	0	0	0
Automated status- and condition-monitoring	0	0	0
Generic Laser (analog, CO2)	0	0	0
IPG: YLPN, YLPN APD-Mode, YLPS AMB	0	0	0
nLight: AFX, CFX, CLF, SFX	0	0	0
Trumpf: TruPulseNano	0	0	0
Lumentum: Pico Blade 3	0	0	0
Innolas Nanio AIR / BLIZZ	0	0	0
Laser specific settings			
Power control: analog (2 channels possible), digital, PWM,	0	0	0
Visible pointer option	0	0	0
Power unit in Watt or Percent	0	0	0
Individual timing-adaptation	0	0	0
First pulse suppression	0	0	0
Tickle puls	0	0	0
Laser calibration file	0	0	0
Position dependent power scaling	0	0	0
GUI Options Languages: English German Chinese French Snanish Italian Jananese	0	0	0
Show / Hide several GUI elements	0	0	0
Flexible arrangement of GUI panels	0	0	0
Quick switch to simplified GUI appearance	0	0	0
Viewport options			
Enable / disable display of: grid, jump vectors, vector tips, highlighting sharp corners	0	0	0
Zoom: In / Out, to workspace, to selected object, dragged area Top View (XY), Side views (XZ) / (VZ) when using a 3D correction file	0	0	0
Display of cursor position	0	0	0
stroke thickness of drawing adjustable	0	0	0
Viewport tools	r	1	
Knife: Geometries can be freely cut into two objects along a line	0	0	0
Ruler: Measure distances between two points which can be defined by mouse	0	0	0
l ocal user or or based on operating system users	0	0	0
Define various user roles	0	0	0
Assignment of activities to user roles (with restriction to read-only access if no authorization)	0	0	0
Automatic logout of admin user by timeout	0	0	0
Adding graphic objects to job		0	
Drag objects directly into tree of viewport	0	0	0
Simple graphic objects			
Line	0	0	0
Square	0	0	0
Polygon	0	0	0
Ellinse	0	0	0
Spiral	0	0	0
Fill-Styles			
Hatching	0	0	0
Inset	0	0	0
Spiral Drill points	0	0	0
Vector Graphic	0	0	0
Drill-Array for code-cells	0	0	0
Circle-Array for code-cells	0	0	0
Fill settings		-	-
Invert	0	0	0
Defined number of inset fill-lines	0	0	0
Padding	0	0	0
Angle	0	0	0
Change of fill angle / offset per pass	0	0	0
Line dimensional un hi dimensional	0	0	0
Complex graphic objects	0	0	0
Drill or drill-array (with import function for coordinates)	0	0	0
Text (various options for automated content generation) radial, vertical orientation	0	0	0
Barcodes (huge number of codes-types and various options for automated content generation)	0	0	0
Vector graphics (import of DXF, PLT, SVG and many more formats)	0	0	0
Dynamic vector graphic (File does get reloaded by each job execution)	0	0	0
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## RAYGUE



Function (v2.18)	RAVGUIDE	CLICK & TEACH	МАТСН
3D Objects	KATGOIDE	CLICK & TEACH	MATCH
Solid (STL-File) for deep engraving, slice viewer for all focus levels	0	0	0
Helix	0	0	0
Extruded vector graphic for deep cutting (several z-layer with shifting of start / end point)	0	0	0
File Import of JPG, BMP, EXIF, GIF, PNG, JPEG	0	0	0
Point&Shoot or Sprint-Mode	0	0	0
Horizontal or vertical line processing	0	0	0
Definize process time by trimming bitmap-lines	0	0	0
Properties of marking obejcts			
Pen assignment	0	0	0
Execution mode: only outline, only filling, contour > filling, filling > contour, don't execute	0	0	0
Passes: number or infinite (no interrupt of power at closed paths)	0	0	0
Sequences: List with number of passes with different pens	0	0	0
Pass assignment per object / layer / path	0	0	0
	0	0	0
Wait on Start-Trigger	0	0	0
Wait on Signal-pattern	0	0	0
Delay Dec Un Dielez	0	0	0
Write Port	0	0	0
Arm / disarm Laser	0	0	0
Send enhanced command (change of tuning)	0	0	0
Write to serial port	0	0	0
Container (collective treatment of several objects)	0	0	0
Group	0	0	0
Matrix-Copy (multiply in fix XYZ-array)	0	0	0
Polar-Copy (multiply along the circumference)	0	0	0
z-Shifter (multiply with focus direction for simple deep engraving)	0	0	0
Segmentation (tiling of oversized layouts)	0	0	0
Automatic vector optimization			<u> </u>
Sort (optimize order to reduce jumps / sort by belt-direction)	0	0	0
Close gaps	0	0	0
Invert direction	0	0	0
Set all z-coordinates to zero	0	0	0
Set as path start	0	0	0
Remove (empty paths, duplicates)	0	0	0
Replace (e.g Arc to Polyline, Polyline to drill-chain)	0	0	0
Double Points in Polyline	0	0	0
Combine / split objects	0	0	0
Define common parameters (e.g. laser on time of multiple drills)	0	0	0
Manuel point editing (by mouse, arrow-keys, discrete transformation)	0	0	0
Define any point as path-start	0	0	0
Object transformation	0	0	0
Offset, rotation, scale / size	0	0	0
Absolut vs relative transformation	0	0	0
Transform in all 3-dimension Selection: object / laver / nath / thumb / also multiselection possible	0	0	0
Apply to copy	0	0	0
Job tree			
Overview of Job settings plus device overview with status indication	0	0	0
Delete, copy, paste objects	0	0	0
Edit object order by drag & drop or push/pull them into / out of container	0	0	0
Explode container (create n-single objects)	0	0	0
Tool-Tip showing important object properties	0	0	0
Export vector graphic to DXF	0	0	0
Job options			
Definition of job-presets (preset defines scan field arrangements and workspace, default optimizations and MOTF settings)	0	0	0
Assignment of job to scan controller(s)	0	0	0
Assignment of pen set	0	0	0
Job looping (tix number of infinite)	0	0	0
Several automated optimisations on job execution can be activated	0	0	0
Unlimited number of jobs to be open at the same time	0	0	0
Definition of variables (variables can be defined in job flow and used e.g. in text / barcodes)	0	0	0
Job statistic with information about process time	0	0	0
Center lavout	0	0	0
Magnetic guidelines in workspace	0	0	0
Align objects relative to each other	0	0	0
Placement of object by coordinate of single object-point Pick-to-fit (position and size get adjusted by background image)	0	0	0

## RAYGJE



No usage         Unit	Function (v2.18)	RAYGUIDE	CLICK & TEACH	МАТСН
Meat argumment of period law should an algorithm of models in server that argumment of period law should argumment of period law should argumment of the server that is a should argumment of period law should argumment of the server that is a should be server that is a should be argumment of the server that	Pen usage			
Caldon of pen libraris         0         0         0         0           Construction         0         0         0         0           Cynologic pense (income served)         0         0         0         0           Cynologic pense penset         0         0         0         0         0           Cynologic penset         0         0         0         0         0         0           Cynologic penset         0	Most granular assignment of pens to layout (on object-, layer-, path-level)	0	0	0
Open is all and all and an all forms all a less starts on contract         O         O         O           Control large of object some witch."How my light posts.         O         O         O           Edit michael parameters when a less than the pin in the spin control of th	Creation of pen libraries	0	0	0
Outcode         0         0         0         0         0         0           Distr difference where vector under to the sole of th	Convision of pens per pen-set to another	0	0	0
fail individual parameters when section multiple peers       0       0       0         Stand or the lob parameter rates is due two       0       0       0         Stand or the lob parameter rates is due two       0       0       0         Stand or the lob parameter rates is due two       0       0       0         Stand or the lob parameter rates is due to the lob parameter	Optional usage of object pens, which "belong" only to an object, not the job	0	0	0
Use of dimension parameter table solver.         0         0         0         0           Sectif cap arameter table solver.         0         0         0         0           Action of vector grant arameter table solver.         0         0         0         0           Action of vector grant arameter aramatera arameter arameter arameter arameter arameter ara	Edit individual parameters when selecting multiple pens	0	0	0
Export of the job parameter bala to SVP forms to explicitation reports         0         0         0         0           Solid with object and weak how hold holdes         0         0         0         0           Achiestion of stretch desenders power control         0         0         0         0           Achiestion of stretch desenders power control         0         0         0         0           Reading any pillude         0         0         0         0         0           Control of stretch desenders         0	User defined parameter table view	0	0	0
Object         O         O         O         O         O           Another of the set of the sector of t	Export of the job parameter table to CSV-format for application reports	0	0	0
And ender on a feedback degreeder power control		0	0	0
Webble-Figures circle lying edit Lisagioze. Diplay of defined webble shape with information about         O         O           Definition of stabed inc         O         O         O           Deve transpit (start, red ring) with multiple signes, distance or time based (pilo for 2 axolog power targets)         O         O         O           Two skynething, modes : angle dependend or "force at start / ends".         O         O         O         O           Lase: power : aconotic start / ends".         O         O         O         O         O           Lase: power : aconotic start / ends".         O         O         O         O         O           Lase: power : aconotic start / ends".         O         O         O         O         O           Lase: power : aconotic start / ends".         O         O         O         O         O           Lase: power : aconotic start / ends".         O	Activation of velocity dependent power control	0	0	0
real-line         O         O         O           Power ramps, tath 7: end -ramp with multiple space, distance or time based (diso for 2 analog power targets)         O         O         O           Note stramps, tath 7: end -ramp with multiple space, distance or time based (diso for 2 analog power targets)         O         O         O           Note stramps, tath 7: end -ramp Note, public with 0 on 0 on 0         O         O         O         O           Note stramps, tath 7: end -ramp, public with 0 on 0 of 0 on 0         O         O         O         O           Inter, power, secondrap, power, forumates, public with 0 on 0 of 0 on 0         O         O         O         O           Delexing mitting and table, particle scate parameter forum with space distance on 0 on 0         O </td <td>Wobble-figures: circle, lying eight, Lissajoux, Display of defined wobble shape with information about</td> <td></td> <td>_</td> <td></td>	Wobble-figures: circle, lying eight, Lissajoux, Display of defined wobble shape with information about		_	
Definition of dashed-ine         O         O         O           Description: and dashed-ine         O         O         O         O           Dev days fifth in multiple space, distance or time based (also for 2 analog power targets)         O <td>resulting amplitude</td> <td>0</td> <td>0</td> <td>0</td>	resulting amplitude	0	0	0
Paper range:         Quert Lengr Advance	Definition of dashed-line	0	0	0
Two skywithing-modes: angle dependent or "force at Last / ends"         O         O         O           Last dependent parameters: optical policy within the policy for the less for AMM-MOULE)         O         O         O           Last dependent parameters: optical policy within the policy for the less for AMM-MOULE)         O         O         O         O           Last appoint: associating power, flequency pulsaviality on /off-clarky         O         O         O         O           Deflection unit: mark speeri, jump speed         O         O         O         O         O           Systeming extension line:         O         O         O         O         O         O           Use of bolicy constrained in the structure of same pilot on the structure of same pilo	Power ramps (start- / end-ramp) with multiple slopes, distance or time based (also for 2 analog power targets)	0	0	0
Lake Capencies         Description         Description <thdescription< th="">         Description         <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<></thdescription<>	Two skywriting-modes : angle dependend or "force at start / ends"	0	0	0
Part parameter finder to create parameter matrix         Control         O         O         O           Deflection unit: mark speed, jump speed         O	Laser dependent parameters: optical pulsewidth, beam-profile, pulse-profile, Simmer current	0	0	0
User:         Description         O         O         O           Defactor         <	Pen parameter finder to create parameter matrix	0	0	0
Deflection unit: mark speed, jump speed         O         O         O           Skyre mind elley, good delay, immo delay, good delay.         O         O         O         O           Skyre mind elley, good delay.         O <td>Laser: power, secondary power, frequency, pulsewidth; on-/off-delay</td> <td>0</td> <td>0</td> <td>0</td>	Laser: power, secondary power, frequency, pulsewidth; on-/off-delay	0	0	0
Delays: much delay, jump delay, pady delay         0         0         0         0           Fandba mumber of rows / columns and distances.         0         0         0         0         0           Interview of rows / columns and distances.         0         0         0         0         0         0           Interview of rows / columns and distances.         0	Deflection unit: mark speed, jump speed	0	0	0
Share matter or toor & Columns and distances         0 <td>Delays: mark delay, jump delay, poly delay</td> <td>0</td> <td>0</td> <td>0</td>	Delays: mark delay, jump delay, poly delay	0	0	0
Index of tools / counting and distances         O         O         O         O           Index provided of trights scan fields non-acomon versions exection of same job = master-master mode)         O         O         O           Index dial fields (in-single fields with simultanious exection of same job = master-master mode)         O         O         O         O           Index dial fields (in-single fields with simultanious exection of same job = master-master mode)         O <td>Skywriting: extension time</td> <td>0</td> <td>0</td> <td>0</td>	Skywriting: extension time	0	0	0
Management of multiple scan field:         O         O           Unified field (several scan fields from a common workspace)         0	riexible number of rows / columns and distances	0	0	0
Individual fields (tri-single fields with simultanious exection of same job = master master mode)         0         0         0           Intersected field (overtapping area created by the arrangement of several scan fields)         0         0         0         0           Loba blaining of paths located in intersected area         0	Management of multiple scan fields			~
Unified field (several scan fields from a common workspace)       0       0       0         Intersected field (overalpoing area created by the arrangement of several scan fields)       0       0       0         Data balancing of paths located in intersected area       0       0       0       0         Development       0       0       0       0       0         Order (do is loaded onto carl for direct response to IO signal before execution, especially recommended       0       0       0         Outch Run (secution of individual objects for application trails, automation get ignored)       0       0       0       0         Selection of preview agementry all (contour, enclosing rectangle, contour point       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Pressing of oversized layouts       0       0       0       0       0       0         Pressing of oversized layouts       0       0       0       0       0       0       0       0       0         Selection of preview agementry all (contour, enclosing rectangle, contour point       0       0       0       0       0       0       0       0       0       0       0       0       0	Individual fields (n-single fields with simultanious exection of same job = master-master mode)	0	0	0
intersected field (overlapping area created by the arrangement of several scan fields)         O         O         O           Labe balancing of paths (casted in interacted area         O         O         O           Concord (dip is loaded onto card for direct response to IO signal before execution, especially recommended         O         O         O           Christ directly thro GUI         O         O         O         O         O           Guick Run (sexcution of individual objects for application trails, automation get ignored)         O         O         O         O           Selection of all openitor         O         O         O         O         O         O           Selection of all openitor         O	Unified field (several scan fields from a common workspace)	0	0	0
Load balancing of paths located in intersected area	Intersected field (overlapping area created by the arrangement of several scan fields)	0	0	0
And Section Ministry         O         O           On-Kast dijectly from GUI         O         O         O           On-Kast dijectly from GUI         O         O         O           On-Kast dijectly from GUI         O         O         O           Cuick-Run texecution of individual objects for application traits, automation get ignored)         O         O         O           Cuick-Run texecution of individual objects for application traits, automation get ignored)         O         O         O           Selection of all open lots or and sective job to execute         O         O         O         O           Selection of preview geometry all, contour, enclosing rectangle, contour point         O         O         O         O           Processing of oversized layout         O         O         O         O         O           Virus dara field allows marking objects to be placed outside the scan field along the belt direction)         O         O         O           Virus dara field allows marking object set or updite the scan field along the belt direction on the field         O         O         O           O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O<	Load balancing of paths located in intersected area	0	0	0
On-Card (gob is baded onto card for direct response to (0 signal before execution, especially recommended       0       0         Quick-Run (sexuction of individual objects for application trails, automation get ignored)       0       0       0         Quick-Run (sexuction of all open jobs or only active job to execute       0       0       0       0         Selection of preview geometry: all, contour, enclosing rectangle, contour point       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Thart scanfield (allows maring objects to be placed outside the scan field along the belt direction)       0       0       0       0         Trust scan field (allows maring objects to be placed outside the scan field along the belt direction on 0       0       0       0       0       0       0       0       0       0       0       0       0	OnHost (directly from GUI)	0	0	0
tor MOIr pobs  CuckeRun (rescution of individual objects for application trails, automation get ignored)  Courted by keyboard shortcus  Selection of all open jobs or only active job to execute  Courted by keyboard shortcus  Preview with pointer  Preview qeometry, all contour, enclosing rectangle, contour point  O  O  O  O  O  Preview with pointer  Preview qeometry, all contour, enclosing rectangle, contour point  O  O  O  O  Preview with pointer  Ther container allows processing of layouts which exceed the size of scanfield by processing a series of tiles  O  O  O  O  Preview (Preview qeometry, all contour, enclosing rectangle, contour point  O  O  O  O  O  Preview (Preview qeometry, all contour, enclosing rectangle, contour point O  O  O  O  O  Preview (Preview qeometry, all contour, enclosing rectangle, contour point O  O  O  O  O  O  O  O  O  O  Preview (Preview qeometry, all contour, enclosing rectangle, contour point O  O  O  O  O  O  O  O  O  O  O  O  D  Preview (Preview qeometry, all contour, enclosing rectangle, contour point O  O  O  O  O  O  O  O  O  O  O  O  O	OnCard (job is loaded onto card for direct response to IO signal before execution, especially recommended	0	0	0
Cubic Avenue (execution or individual objects or application traits, automation get ignored)         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Selection of all open igos or only active job to execute         0         0         0         0           Processing of oversized job processing of layouts which exceed the size of scanfield by processing a series of tiles can be user defined, empty tiles get skipped         0         0         0           Writuin scan field fallows marking objects to be placed outside the scan field along the belt direction)         0         0         0           Tiggering via parts thark end obset sequence in belt direction         0         0         0         0           Operation of encoder for evoldstarts repetitions         0         0         0         0         0	tor MOIF jobs)		<u>^</u>	0
and a stort and bell place to the backete       0       0       0         Preview with pointer       0       0       0       0       0         Preview with pointer       0       0       0       0       0         Preview with pointer       0       0       0       0       0       0         Ther constraint allows processing of layous which exceed the size of scanfield by processing a series of tiles       0       0       0       0         Automatic sorting of the objets equence in bet direction       0       0       0       0       0       0       0       0       0       0       0	Quick-kun (execution of individual objects for application trails, automation get ignored)	0	0	0
Preview with pointer         0         0           Selection of previse geometry all, contour, enclosing rectangle, contour point         0         0         0           Processing of oversized layouts         0         0         0         0           Ther container allows processing of layouts which exceed the size of scanfield by processing a series of tiles         0         0         0           Marking-on-the-Fy (MOTF)         0         0         0         0         0           Virtual scan field (allows marking objects to be placed outside the scan field along the belt direction)         0	Control by keyboard shortcuts	0	0	0
Selection of preview genetry: all, contour, enclosing restangle, contour point         O         O         O         O           Processing of oversized layouts	Preview with pointer			
Possibility to edit the layout which the exceed the size of scanfield by processing a series of tiles       0       0       0         Ther container allows processing of layouts which exceed the size of scanfield by processing a series of tiles       0       0       0         Marking-on-the-fly (MOTF)	Selection of preview geometry: all, contour, enclosing rectangle, contour point	0	0	0
Trice contain a low single in low space sing of layouts which exceed the size of scanfield by processing a series of tiles O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Possibility to edit the layout while the preview is running	0	0	0
The container attack the set of t	Processing of oversized layouts Tiler container allows processing of layouts which exceed the size of scanfield by processing a series of tiles	0	0	0
Marking-on-the-fly (MOTF)       0       0       0         Virtual scan field (allows marking objects to be placed outside the scan field along the belt direction)       0       0       0         Automatic sorting of the object sequence in belt direction       0       0       0       0         Automatic sorting of the object sequence in belt direction       0       0       0       0         Splitting of oversized geometries by belt distance or time to fit into the field       0       0       0       0         for maximum belt speed)       0       0       0       0       0       0         Grouping of paths that are close together in the belt direction to reduce reset-jumps       0	order of tiles can be user-defined, empty tiles get skipped	0	0	0
Virtual scan field (allows marking objects to be placed outside the scan field along the belt direction)       0       0       0         Automatic sorting of the object sequence in belt direction       0       0       0       0         Automatic sorting of the object sequence in belt direction       0       0       0       0         Splitting of oversized geometries by belt distance or time to fit into the field       0       0       0       0         MOTF parameter finder (automatically determines ideal values for splitting large geometries for maximum belt speed)       0       0       0       0         Grouping of paths that are close together in the belt direction to reduce reset-jumps       0       0       0       0       0         Direct access to MOTF settings of scan controller       0 <td< td=""><td>Marking-on-the-fly (MOTF)</td><td></td><td></td><td></td></td<>	Marking-on-the-fly (MOTF)			
Ingençu va part sensor, distance or equidistant repetitions       0       0       0         Automatic sorting of the object sequence in belt direction       0       0       0         Splitting of oversized geometries by belt distance or time to fit into the field       0       0       0         MOTF parameter finder (automatically determines ideal values for splitting large geometries       0       0       0         Grouping of paths that are close together in the belt direction to reduce reset-jumps       0       0       0         Direct access to MOTF settings of scan controller       0       0       0       0         Configuration of encoder and belt direction reducer reset-jumps       0       0       0       0         Debouncing und suppression of part sensor possible       0       0       0       0       0         Setup of encless MOTF icbs       0       0       0       0       0       0       0         Use of second encoder (compensation of movements 90° to belt direction or in z-direction       0       0       0       0       0       0         Use of second encoder (compensation of movements 90° to belt direction or in z-direction       0       0       0       0       0       0       0       0       0       0       0       0       0	Virtual scan field (allows marking objects to be placed outside the scan field along the belt direction)	0	0	0
Additional soluting on the object sequence in the total direction of the interval of the intex	Triggering via part sensor, distance or equidistant repetitions	0	0	0
Display of order during of order during of mile of miles of m	Solitting of oversized geometries by belt distance or time to fit into the field	0	0	0
for maximum belt speed)     0     0     0       Grouping of paths that are close together in the belt direction to reduce reset-jumps     0     0     0       Direct access to MOTF settings of scan controller     0     0     0       Configuration of encoder and belt direction     0     0     0       MOTF simulation encoder for evaluation without real encoder     0     0     0       Debouncing und suppression of part sensor possible     0     0     0       Setup of encless MOTF jobs     0     0     0       Use of second encoder (compensation of movements 90° to belt direction or in z-direction     0     0     0       Job analysis     0     0     0     0       Use of second encoder (compensation of movements 90° to belt direction or in z-direction     0     0     0       Job analysis     0     0     0     0     0       Zab and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series     0     0     0       Deep engraving: Import and slicing of 3D solid provided by STL files     0     0     0       Schud vector graphic: repeat layouts in several focus positions     0     0     0       Iterate detection files that have an integrated 3D surface by means of Multi-Point-Editor software     0     0     0       Automated communication of system faults <td>MOTE parameter finder (automatically determines ideal values for splitting large geometries</td> <td>Ŭ</td> <td>Ŭ</td> <td>0</td>	MOTE parameter finder (automatically determines ideal values for splitting large geometries	Ŭ	Ŭ	0
Grouping of paths that are close together in the belt direction to reduce reset-jumps       0       0       0         Direct access to MOTF settings of scan controller       0       0       0         Configuration of encoder and belt direction       0       0       0         MOTF simulation encoder for evaluation without real encoder       0       0       0         Debouncing und suppression of part sensor possible       0       0       0       0         Setup of endless MOTF jobs       0       0       0       0       0         Use of second encoder (compensation of movements 90° to belt direction or in z-direction       0       0       0       0         Job analysis       0       0       0       0       0       0       0         Deep ongreaving: Import and slicing of 3D solid provided by STL files       0       0       0       0       0         Celear uring of glass)       0	for maximum belt speed)	0	0	0
Direct access to Winds of Secting of Secting Section         O         O         O           Configuration of encoder and belt direction         O         O         O         O           MOTF simulation encoder for evaluation without real encoder         O	Grouping of paths that are close together in the belt direction to reduce reset-jumps	0	0	0
Comparison of the stand of the second of the second of the second of the stand		0	0	0
Debouncing und suppression of part sensor possible       0       0       0         Setup of endless MOTF jobs       0       0       0         Use of second encoder (compensation of movements 90° to belt direction or in z-direction       0       0       0         Jbs palay of job statistics with execution time       0       0       0       0         View options allow insight into layout- and process-sequence       0       0       0       0         2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series       0       0       0       0         Z-Shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0         Use of orrection files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0         Automated communication of system faults       Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0       0	MOTF simulation encoder for evaluation without real encoder	0	0	0
Setup of endless MOTF jobsOOOUse of second encoder (compensation of movements 90° to belt direction or in z-directionOOOJob analysisDisplay of job statistics with execution timeOOOView options allow insight into layout- and process-sequenceOOOO2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-SeriesDOOODeep engraving: Import and slicing of 3D solid provided by STL filesOOOOz-shift container: repeat layouts in several focus positionsOOOOEktruded vector graphic: repeat layouts in several focus positions while shifting start- / end-positionOOOImport of 3D vector graphics or 3D coordinate-tableOOOO2D layout can be rotated into space (marking on inclined plane)OOOOUse of correction files that have an integrated 3D surface by means of Multi-Point-Editor softwareOOOAutomated communication of system faultsDOOOIf used, also errors from plug-ins as image prosesing (MATCH) or distance measurement (RAYDIME METER)OOOCommunication via IO signals or serial interfaceOOOOSupport of CSV-file import / export for quick assignment / updating of job listsOOOTimestamp for quick identification of the up-to-dateness of jobs that have airready been uploadedOOOCommunication or soft end to the control card in one step and def	Debouncing und suppression of part sensor possible	0	0	0
Use of second encoder (compensation of movements 90° to belt direction or in z-direction O O O O O O O O O O O O O O O O O O O	Setup of endless MOTF jobs	0	0	0
Job analysis       0       0       0         Display of job statistics with execution time       0       0       0         View options allow insight into layout- and process-sequence       0       0       0         2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series       0       0       0         Deep engraving: Import and slicing of 3D solid provided by STL files       0       0       0         2-shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0       0       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0       0         Automated communication of system faults       Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0       0         When processing motf       If used, also errors from plug-ins as image processing (MATCH) or distance measurement (RAYDIME METER)	Use of second encoder (compensation of movements 90° to belt direction or in z-direction	0	0	0
Display of Job statustics with Calculation with the calculation with the calculation with the calculation with the calculation of the stand-allone operation mode of scan controller       0       0       0         2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series       0       0       0       0         2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series       0       0       0       0         2.shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0         (deep cutting of glass)       0       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0         Automated communication of system faults       0       0       0       0       0         If used, also errors from plug-ins as image processing (MATCH) or distance measurement (RAYDIME METER)       0       0       0         Communication via IO signals or serial interface	JOD analysis Display of job statistics with execution time	0	0	0
2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN- (FIBER)-Series         Deep engraving: Import and slicing of 3D solid provided by STL files       0       0       0         z-shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0       0         Import of 3D vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0	View options allow insight into layout- and process-sequence	0	0	0
Deep engraving: Import and slicing of 3D solid provided by STL files       0       0       0         z-shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0       0       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0       0         Automated communication of system faults       0       0       0       0       0         Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0       0         Vene processing motf       0	2.5D and 3D processing with FOCUSHIFTER and AXIALSCAN-(FIBER)-Series			
z-shift container: repeat layouts in several focus positions       0       0       0       0         Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0       0       0       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0       0       0         Automated communication of system faults        0       0       0       0       0         Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0       0         When processing motf       0       0       0       0       0       0       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0       0       0       0         Communication via IO signals or serial interface       0       0       0       0       0       0       0         Support of CSV-file import / export for quick assignment / u	Deep engraving: Import and slicing of 3D solid provided by STL files	0	0	0
Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position       0       0       0         (deep cutting of glass)       0       0       0       0       0         Import of 3D vector graphics or 3D coordinate-table       0	z-shift container: repeat layouts in several focus positions	0	0	0
Import of 3D vector graphics or 3D coordinate-table       0       0       0         2D layout can be rotated into space (marking on inclined plane)       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0       0         Automated communication of system faults       0       0       0       0       0         Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0       0         when processing motf       0       0       0       0       0       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0       0       0       0         Communication via IO signals or serial interface       0       0       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0       0	Extruded vector graphic: repeat layouts in several focus positions while shifting start- / end-position (deep cutting of glass)	0	0	0
2D layout can be rotated into space (marking on inclined plane)       0       0       0       0         Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software       0       0       0       0         Automated communication of system faults       0       0       0       0       0       0         Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field when processing motf       0       0       0       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0       0       0         Communication via IO signals or serial interface       0       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0       0	Import of 3D vector graphics or 3D coordinate-table	0	0	0
Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software 0 0 0 0 0          Automated communication of system faults         Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0         Mene processing motf       0       0       0       0       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0       0       0         Communication via IO signals or serial interface       0       0       0       0         Setup of the stand-alone operation mode of scan controller       0       0       0       0         Load several laser process jobs onto the control card in one step and define their execution conditions       0       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0       0	2D layout can be rotated into space (marking on inclined plane)	0	0	0
Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field       0       0       0         When processing motf       0       0       0       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0       0       0         Communication via IO signals or serial interface       0       0       0       0         Setup of the stand-alone operation mode of scan controller       0       0       0         Load several laser process jobs onto the control card in one step and define their execution conditions       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0       0	Use of correction files that have an integrated 3D surface by means of Multi-Point-Editor software Automated communication of system faults	0	0	0
when processing indu       0         If used, also errors from plug-ins as image proessing (MATCH) or distance measurement (RAYDIME METER)       0         Communication via IO signals or serial interface       0       0         Setup of the stand-alone operation mode of scan controller       0       0         Load several laser process jobs onto the control card in one step and define their execution conditions       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0       0	Possible faults: laser alarm, deflection unit status failed, scan controller, abort signal, out-of-field	0	0	0
Communication via IO signals or serial interface       0       0       0         Setup of the stand-alone operation mode of scan controller       0       0       0         Load several laser process jobs onto the control card in one step and define their execution conditions       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0         Definition of the reaction in the event of an error or abort, including return to the start of the list       0       0       0	If used also errors from pluo-ins as image processing (MATCH) or dictance measurement (RAVDIME METER)			0
Setup of the stand-alone operation mode of scan controller         O	Communication via IO signals or serial interface	0	0	0
Load several laser process jobs onto the control card in one step and define their execution conditions       0       0       0         Support of CSV-file import / export for quick assignment / updating of job lists       0       0       0       0         Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded       0       0       0       0         Definition of the event of an error or abort, including return to the start of the list       0       0       0       0	Setup of the stand-alone operation mode of scan controller		-	
Support of CSV-file import / export for quick assignment / updating of job lists     O     O     O       Timestamp for quick identification of the up-to-dateness of jobs that have already been uploaded     O     O     O       Definition of the reaction in the event of an error or abort, including return to the start of the list     O     O     O       Configuration can be evend and clogad to other cards     O     O     O     O	Load several laser process jobs onto the control card in one step and define their execution conditions	0	0	0
Interstamp for quick identification of the up-to-dateness of jobs that have already been uploaded 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Support of CSV-file import / export for quick assignment / updating of job lists	0	0	0
	Definition of the reaction in the event of an error or abort including roture to the start of the list	0	0	0
	Configuration can be saved and cloned to other cards	0	0	0

## RAYGUE



RAYGUIDE CLICK & TEACH MATCH

Optional enhancements via plug-ins			
Remote connection via TCP/IP interface			
Direct control of RAYGUIDE functions from PLC	0	0	0
Remote server allows control without the GUI being open	0	0	0
Possibility to subscribe to (error-) events in order to react on these accordingly	0	0	0
Provide code / text content, object or job transformation, changing process parameters	0	0	0
Control job selection	0	0	0
Adjustment of the focus position for focus drift compensation	0	0	0
Solar-Wafer			
Solar wafer designer (create wafer layout direct in RAYGUIDE and jerk limited control)	0	0	0
Solar wafer Importer with direct conversion of geometric dash-lines into the dash-line function	0	0	0
Solar wafer designer dedicated for TopCON wafer	0	0	0
Electrode-tab designer			
Direct generation of typical cutting geometries of electrode tabs	0	0	0
Direct generation of typical cutting geometries for tabless notching	0	0	0
Log-Importer			
Review layout of logged vectors as transmitted to the control card	0	0	0
Miscellaneous			
Import / export of system settings (for backing up / restoring your system-specific RAYGUIDE settings			
inclusen libraries etc.)	0	0	0
CIII multitasking cica, change/create a second job while another job is running)	0	0	0
So maintaining (e.g. change/create a second job while another job is rounning) Emulated scan controller allows the creation of PAVGIIDE into while a road scan controller $\geq$ Office version)	0	0	0
Endated scan controller allows the creation of KATGODE Jobs without a real scan controller > Onice version)	0	0	0
Support function with shortcut to the manual	0	0	0
Support function (automated conection of an support relevant data)	0	0	0
Several rog mes for last double should g	0		0
Software development kit (SDK): Use only features you need in your application by direct function calls	0	0	0
Software-developments (SDR), ose only reactes you need in your application by direct reliction cans	0	0	0
Add-on feature: RAYGUIDE CLICK & TEACH	U		0
Calibration of camera using marked calibration jobs		0	0
Calibration of calibration good and a calibration jobs		0	0
Concert image acquisition actions for background images (background images are used to adjust contour decign and		0	0
several mage acquisition options for background images (background images are used to adjust contour design and		0	0
position manually)		0	-
Live-image with preview function to check teached in contour		0	0
Automation object to acquire image in job (e.g. images of process results)		0	0
Automation object for illumination control		0	0
Autor reactive. Kar Golde march (position detection with mage processing)			0
Embed image processing job as automation object in KAYGUIDE job flow			0
Image acquisition element (deminion or region-or-interest incl. option to set information or camera parameters)			0
Several digital filter: plur, threshold, morphological operations and many more			0
			0
Several searches: circles, lines, corners, templates, grey value transitions			0
Parameter variation (increases robustness by renewed search with varying parameters)			0
Resource for even events in elements interence position, determination and validation of process transformation)			0
Report of error events to remote interface client			0
Can also work with imported images			0
Export of images for quality control of troubleshooting			0
TOWN TOO THE OF SEARCH RESULTS			0

Function (v2.18)