

SIRIUS2

PROTOCOL for REMOTE COMMUNICATION

Revision History

2023.11.18 Initial version (v.1.5.830)

2023.11.19 added) layer, select, deselect (v.1.6.840)

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1. Communication Methods: TCP/IP Server or SERIAL(RS-232)

- For TCP/IP
 - Server Port: 5001
- For Serial (RS-232)
 - COM Port: 1
 - Baud-rate: 57600 bps
 - Data bit: 8
 - Stop bit: 1
 - Parity: None
- Communication format are based on ASCII character
- Default separator: ','
- Default terminator: ';'
- Configurable setting at config.ini file

[REMOTE0]

; 1= ENABLE, 0= DISABLE

ENABLE=1

; TCP, SERIAL

PROTOCOL=TCP

; TCP config

TCP_PORT=5001

; SERIAL config

SERIAL_PORT=2

SERIAL_BAUDRATE=57600

2. List of commands

- Recipe: Query and change recipe file
- Offset: Update list of offsets (dx, dy, dz, angle z, ...)
- Control: Control commands
- Status: Query status

- Entity: Query and update entity's property value
- Pen: Query and update pen's property value
- Layer: Query and update layer's property value
- Select or Deselect: Query and select/deselect entities
- FieldCorrection: Popup scanner field correction 2D winforms

3. Recipe

- Command: Recipe, Filename; (absolute path)
- Example: Recipe,C:\sirius2\bin\recipe\test.sirius2;
- Response: OK; or NG;
- Command: Recipe, Filename; (\recipe\ path)
- Example: Recipe,test.sirius2; (searching for \recipe)
- Response: OK; or NG;
- Query: Recipe;
- Response: OK;Recipe,C:\sirius2\bin\recipe\test.sirius2;

4. Offset

- Command: Offset,Count,x₁,y₁,z₁,angle₁, ... , x_n,y_n,z_n,angle_n;
- Example: Offset,1,-5,1,0,2;
- Example: Offset,2,-5,0,0,0, 5,0,0,0;
- Response: OK; or NG;
- (Ref1) Transformation orders are rotate z and translate dx,dy,dz

5. Control

- Command: Control,Start (|Stop|Reset);
- Example: Control,Start;
- Example: Control,Stop;
- Example: Control,Reset;

- Response: OK; or NG;

6. Status

- Query: Status;
- Response: Status,Error; (|Status,Busy;|Status,Ready;|Status,NotReady;)

7. Entity

- Query lists of entity properties
- Format: Entity, Name, Properties;
- Example: Entity,Rectangle1,Properties;
- Response:


```
OK;
Width,10;
Height,5;
IsClosed,True;
IsHatchable,False;
HatchMode,Line;
HatchJoint,Square;
IsHatchZigZag,False;
HatchAngle,90;
HatchAngle2,0;
HatchInterval,0.2;
HatchExclude,0.05;
HatchShift,0;
HatchRepeat,1;
IsHatchIncludeOutline,True;
IsHatchOutlineFirst,False;
Id,1260;
TypeName,EntityRectangle;
Color,Color [White];
Name,Rectangle;
IsRenderable,True;
IsMarkerable,True;
IsHitTestable,True;
IsSelected,True;
ChildCount,0;
Alignment,None;
ModelAlign,(0, 0, 0);
ModelTranslate,(10, -10, 0);
ModelScale,1;
ModelRotate,(0, 0, 0);
Repeats,1;
In,(5, -7.5, 0);
Out,(5, -7.5, 0);
BBox,10.000, 5.000, 0.000;
ModelMatrix,(1, 0, 0, 0)
```

```
(0, 1, 0, 0)
(0, 0, 1, 0)
(10, -10, 0, 1);
```

- Query property value of entity
- Format: Entity, Name, Property;
- Example: Entity,Rectangle1,Color;
- Response: OK;Entity,Rectangle1,Color,White;
- Example: Entity,Rectangle1,Width;
- Response: OK;Entity,Rectangle1,Width,10;
- Example: Entity,Rectangle1,ModelTranslate;
- Response: OK;Entity,Rectangle1,ModelTranslate,10,-10,0;
- Command to set property value of entity
- Format: Entity, Name, Property, Value;
- Example: Entity,Rectangle1,Color,Yellow;
- Response: OK; or NG;
- Example: Entity,Rectangle1,Width,11;
- Response: OK; or NG;
- Example: Entity,Rectangle1,ModelTranslate,0,0,0;
- Response: OK; or NG;

8. Pen

- Query lists of pen properties
- Format: Pen, Name, Properties;
- Example: Pen,White,Properties;
- Response:
OK;
Power,1;
PowerMax,10;
PowerPercentage,10;
Frequency,50000;
PulseWidth,2;
PulsePeriod,20;
PulsePitch,2;
PulseDutyCycle,10.000 %;
JumpSpeed,100;
MarkSpeed,100;
MinMarkSpeed,0;
ApproxBlendLimit,0;
Color,Color [White];
LaserFpk,0;
LaserQSwitchDelay,0;

```

LaserOnDelay,10;
LaserOffDelay,50;
ScannerJumpDelay,250;
ScannerMarkDelay,150;
ScannerPolygonDelay,0;
IsScannerVariablePolygonDelay,False;
ScannerVariablePolygonDelayEdgeLevel,0;
IsScannerVariableJumpDelay,False;
ScannerVariableJumpDelayMin,50;
ScannerVariableJumpLength,1;
IsSkyWritingEnabled,False;
SkyWritingMode,Mode3;
LaserOnShift,10;
TimeLag,150;
Prev,0;
Post,0;
AngularLimit,89;
IsWobbelEnabled,False;
WobbelPerpendicular,0;
WobbelParallel,0;
WobbelFrequency,0;
WobbelShape,Ellipse;
Id,1;
TypeName,EntityPen;
Name,White;
Description,Color [White];
ChildCount,0;

```

- Query property value of pen
- Format: Pen, Name, Property;
- Example: Pen,White,MarkSpeed;
- Response: OK;Pen,White,MarkSpeed,100;

- Query: Pen,White,Frequency;
- Response: OK;Pen,White,Frequency,50000;

- Command to set property value of pen
- Format: Pen, Name, Property, Value;
- Example: Pen,White,MarkSpeed,1000;
- Response: OK; or NG;

- Command: Pen,White,Frequency,100000;
- Response: OK; or NG;

9. Layer

- Query lists of layer properties
- Format: Layer, Name, Properties;
- Example: Layer,0,Properties;
- Response:
OK; MotionType,StageAndScanner;

```

BandWidth,2;
IsALC,False;
AlcSignal,Disabled;
AlcMode,Disabled;
AlcPercentage100,0;
AlcMinValue,0;
AlcMaxValue,0;
AlcByPositionTable,System.Collections.Generic.KeyValuePair`2[System.Double,System.Double][];
Id,11;
TypeName,EntityLayer;
Name,0;
IsRenderable,True;
IsMarkerable,True;
IsSelected,True;
ChildCount,0;
Repeats,1;
In,(0, 0, 0);
Out,(0, 0, 0);

```

- Query property value of layer
- Format: Layer, 0, Property;
- Example: Layer,0,Name;
- Response: OK;Layer,0,Name,0;

10. Select or Deselect

- Query lists of selected entities
- Example: Select;
- Response:OK;Select,1,Arc1; (if 1 entity has select)
- Response:OK;Select,0; (if nothing has selected)
-
- Format: Select,Count,Name1,Name2,...;
- Example: Select,1,Arc1;
- Response: OK; or NG;
-
- Example: Select,2,Arc1,Arc2;
- Response: OK; or NG;

11. Field Correction 2D

- Command: FieldCorrection, Rows, Cols, Interval, ErrX1,ErrY1, ErrX2,ErrY2, ..., , ErrXn,ErrYn;
- Example: FieldCorrection,3,3,10,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0;
- Response: OK; or NG;
- (Ref1) Row and Col are odd numbers only (3,5,7,9, ...)
- (Ref2) ErrX, ErrY values are order from left top to right bottom

10. Example

- Command: Recipe,test.sirius2;
- Response: OK;
- Command: Entity,QRCode1,SourceText,HELLO WORLD;
- Response: OK;
- Query: Status;
- Response: Status,Ready;
- Command: Control,Start;
- Response:OK;
- Query: Status;
- Response: Status,Busy;
- ...
- Response: Status,End; (by automatically)
- Query: Status;
- Response: Status,Ready;
- Command: Offset,2, -5,0,0,0, 5,0,0,0;
- Response: OK;
- Command: Control,Start;
- Response: OK;
- Response: Status,End; (by automatically)