智能化成就卓越
Intelligence ForExcellence

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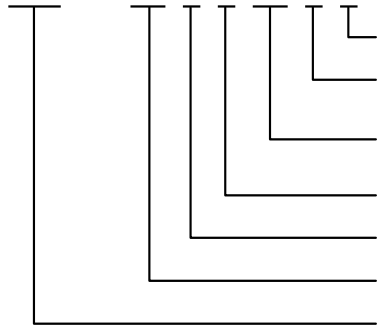

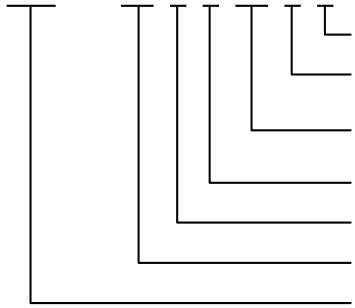

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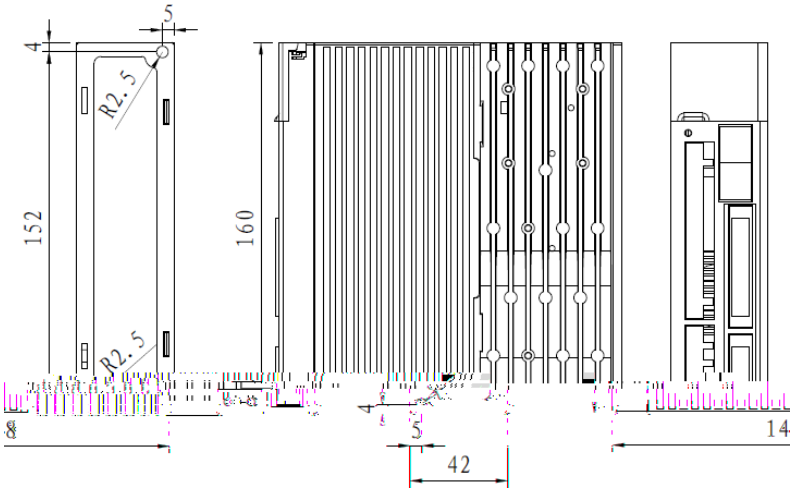
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R2.5
152
160
R2.5
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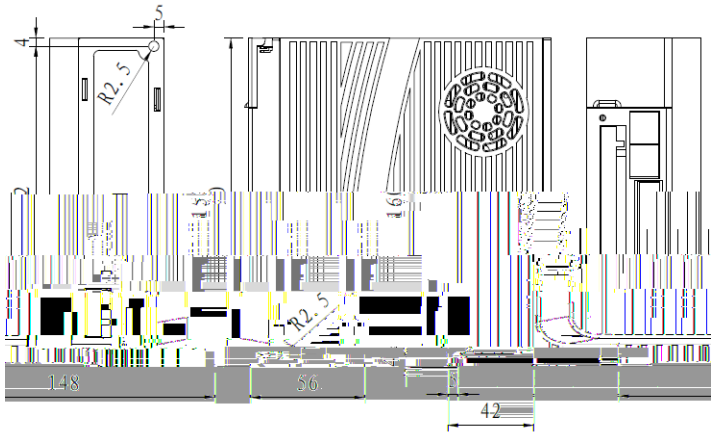
14
42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4
R2.5
R2.5
148
56
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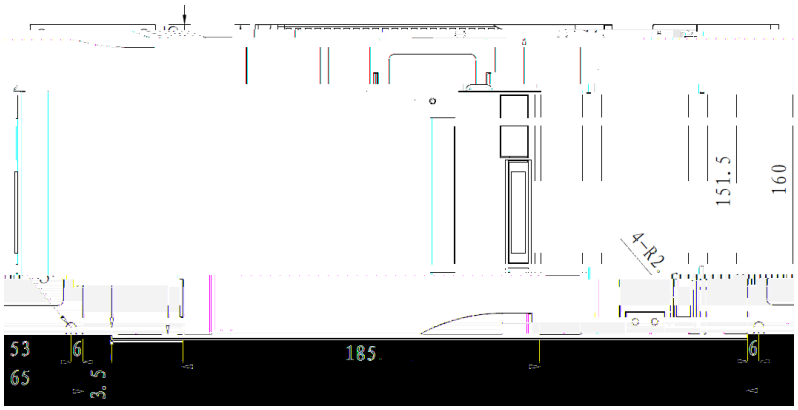
151.5
160
4-R2
53
65
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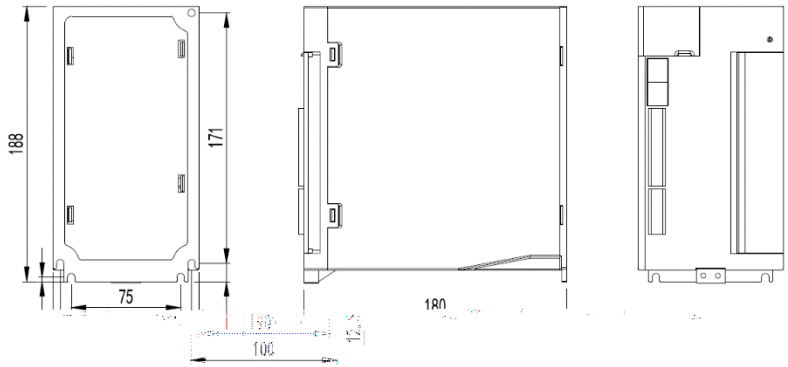
185
6
3.5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171
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180
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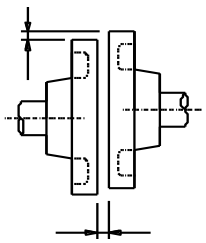
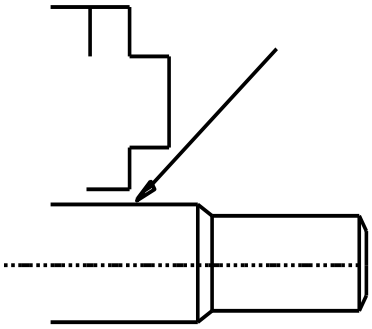
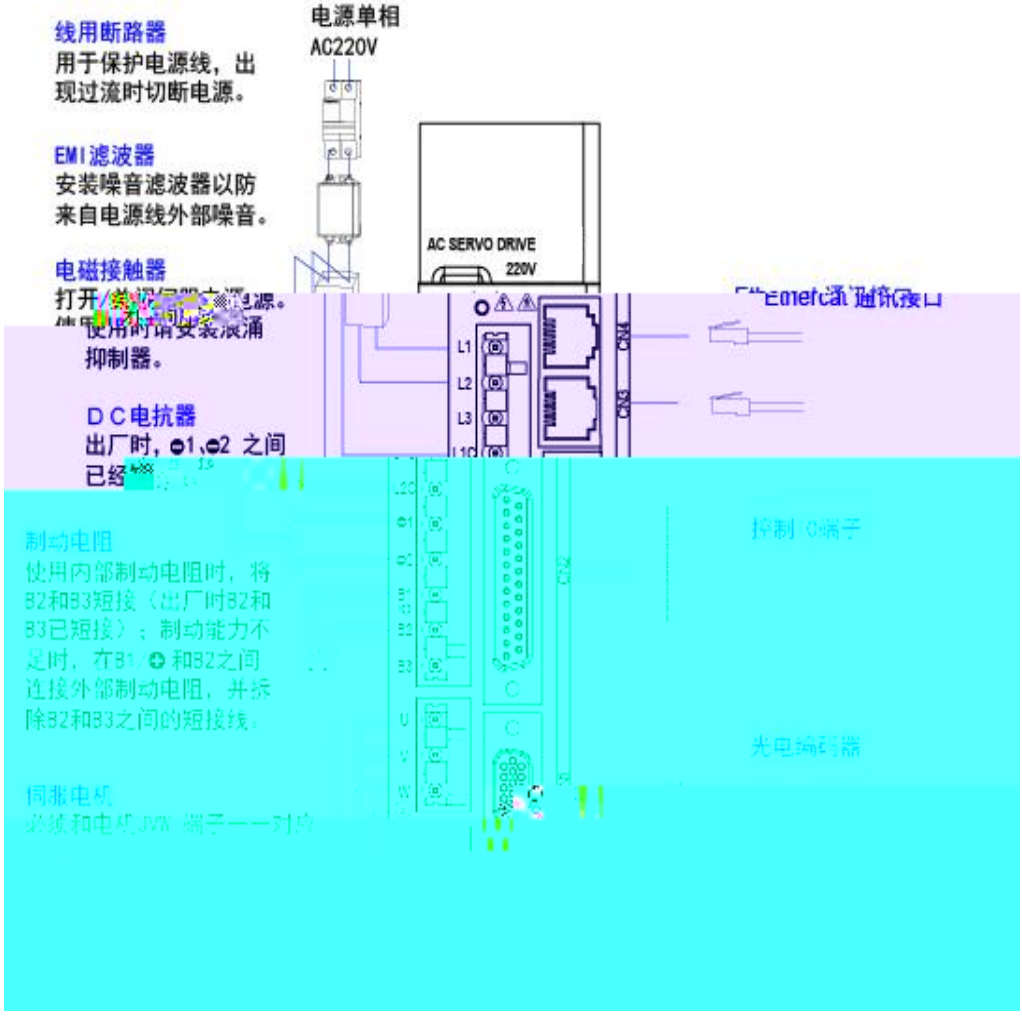
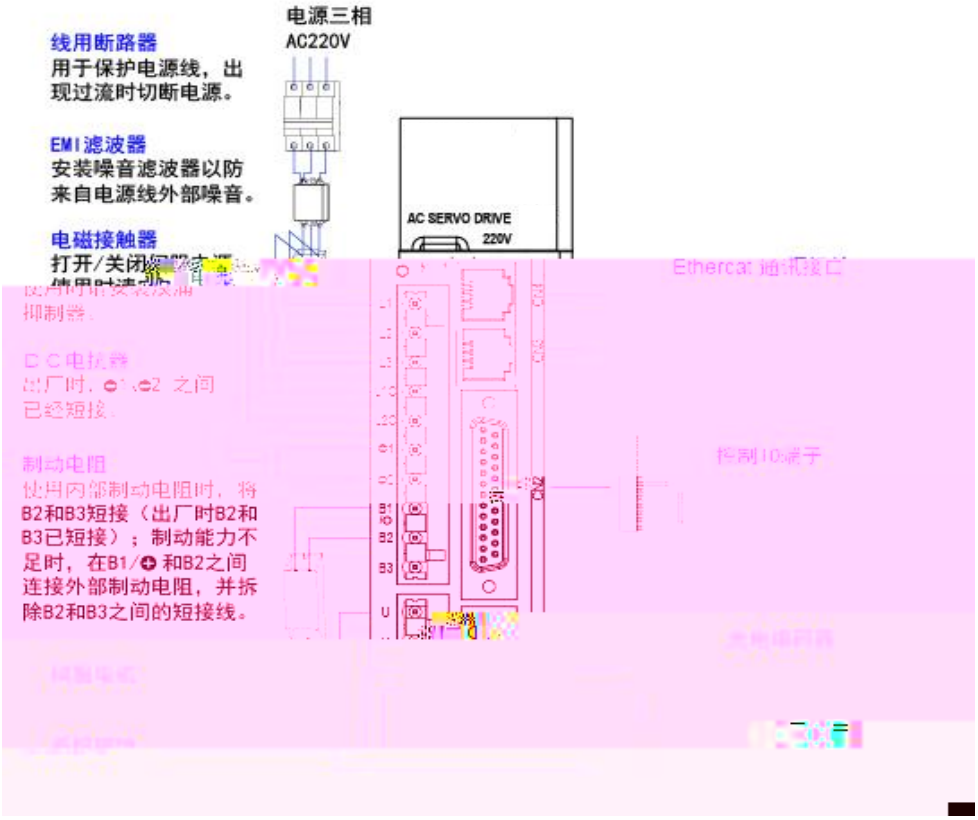
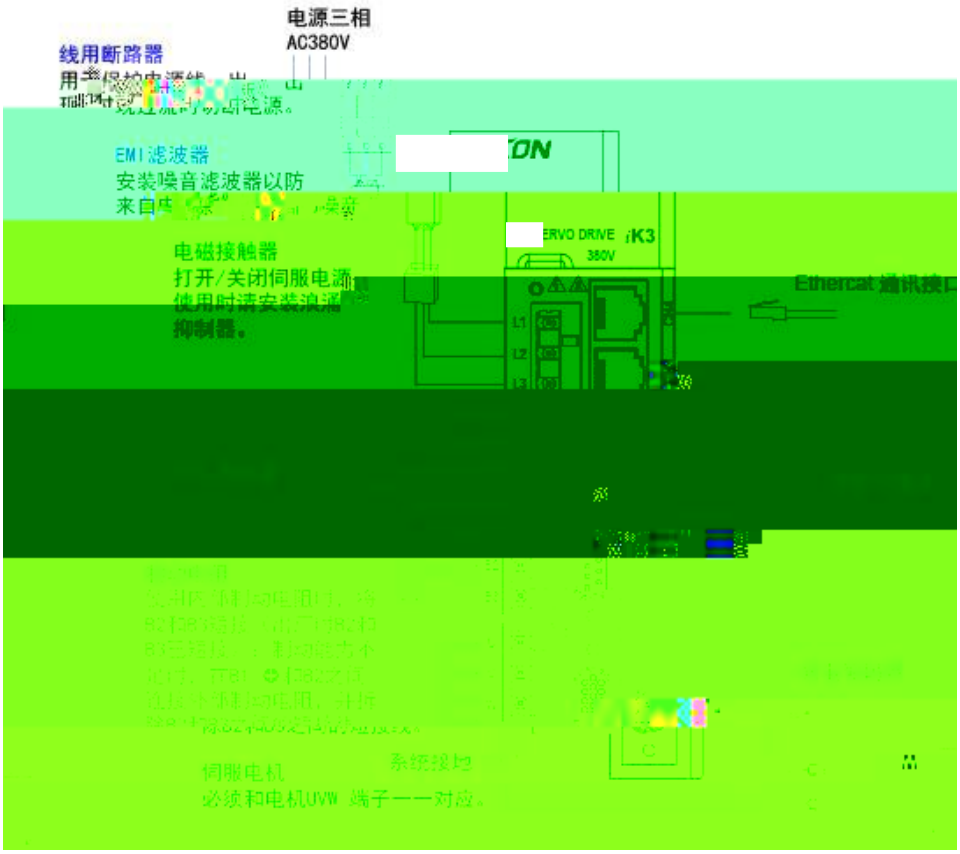


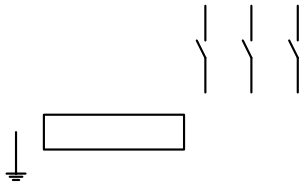


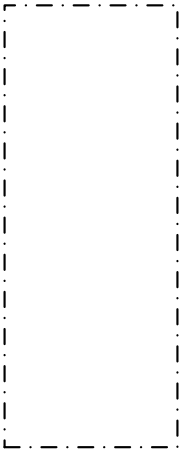

电源单相
AC220V
线用断路器
用于保护电源线，出现过流时切断电源。
EMI滤波器
安装噪音滤波器以防来自电源线外部噪音。
电磁接触器
使用时请安装浪涌抑制器。
DC电抗器
出厂时，⊖1、⊖2 之间已经
制动电阻
使用内部制动电阻时，将B2和B3短接（出厂时B2和B3已短接）；制动能力不足时，在B1 ⊕ 和B2之间连接外部制动电阻，并拆除B2和B3之间的短接线。
伺服电机
AC SERVO DRIVE
220V
L1
L2
L3
CN4
CN3
CN2
控制 I/O端子
光电编码器

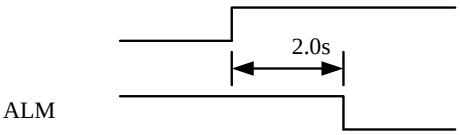

电源三相
AC220V
线用断路器
用于保护电源线，出现过流时切断电源。
EMI滤波器
安装噪音滤波器以防来自电源线外部噪音。
电磁接触器
打开/关闭伺服电源
使用时请安装浪涌抑制器。
AC SERVO DRIVE
220V
Ethercat 通讯接口
控制IO端子
DC电抗器
出厂时，C1、C2 之间已经短接。
制动电阻
使用内部制动电阻时，将B2和B3短接（出厂时B2和B3已短接）；制动能力不足时，在B1/⊕和B2之间连接外部制动电阻，并拆除B2和B3之间的短接线。
B1
B2
B3
U


电源三相
AC380V
线用断路器
EMI滤波器
安装噪音滤波器以防
电磁接触器
打开/关闭伺服电源
使用时请安装浪涌
抑制器。
Ethercat 通讯接口
伺服电机
必须和电机UVW 端子一一对应。

4



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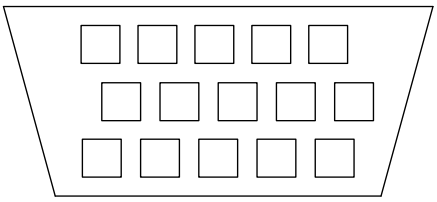

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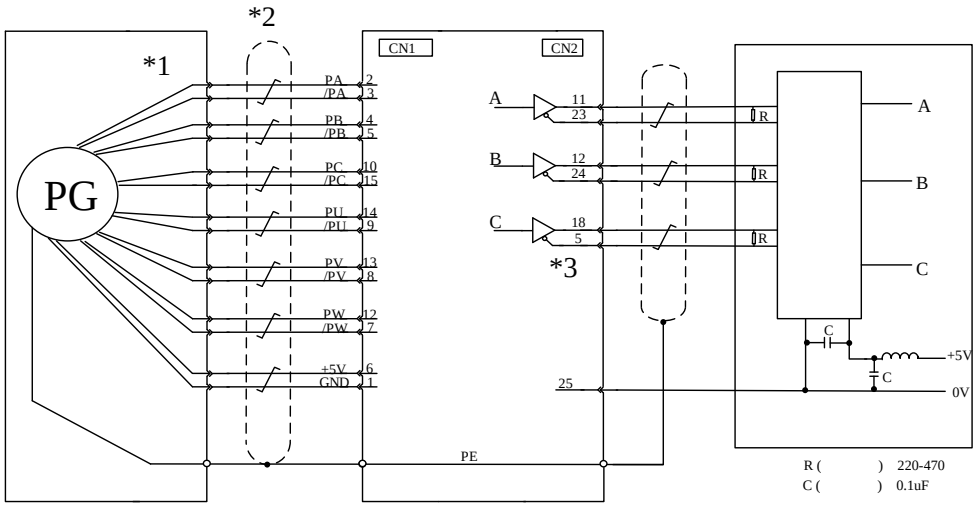
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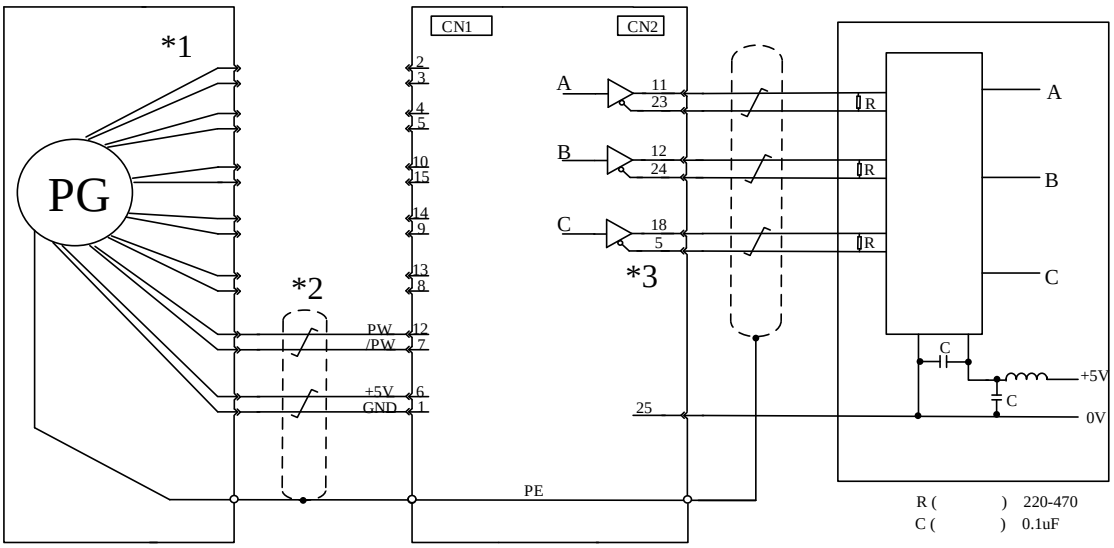
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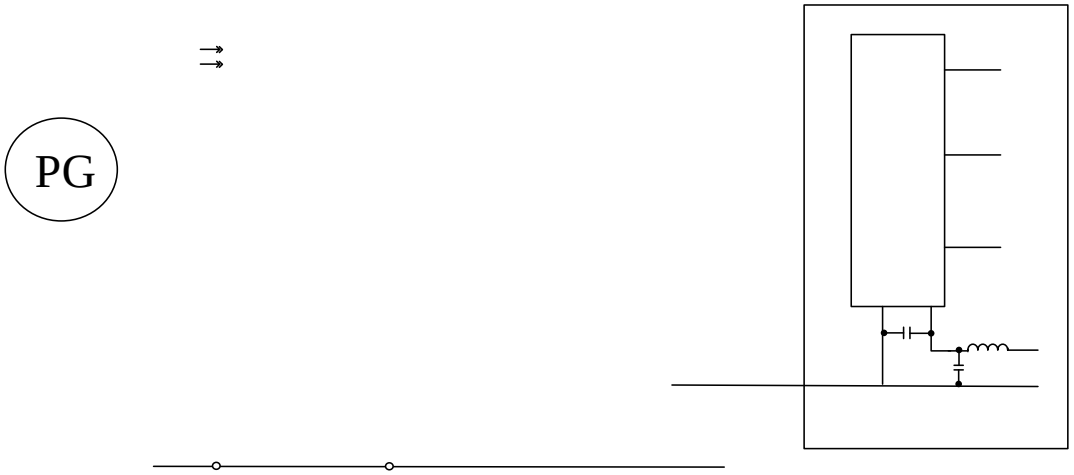
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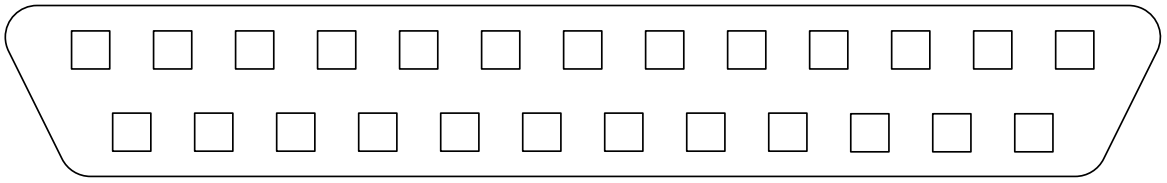

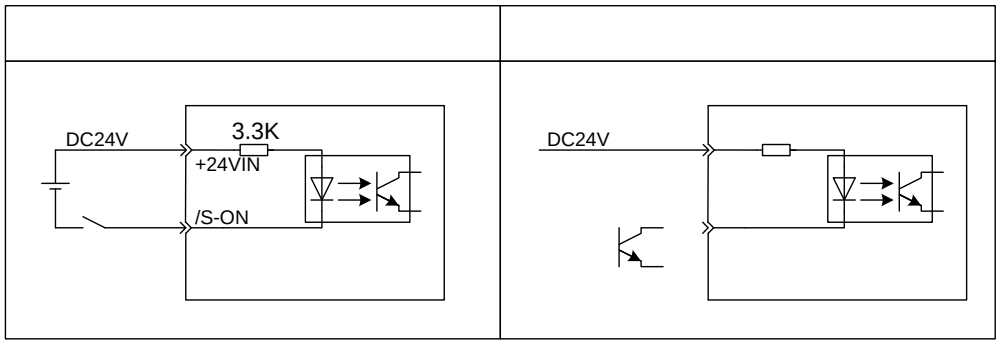
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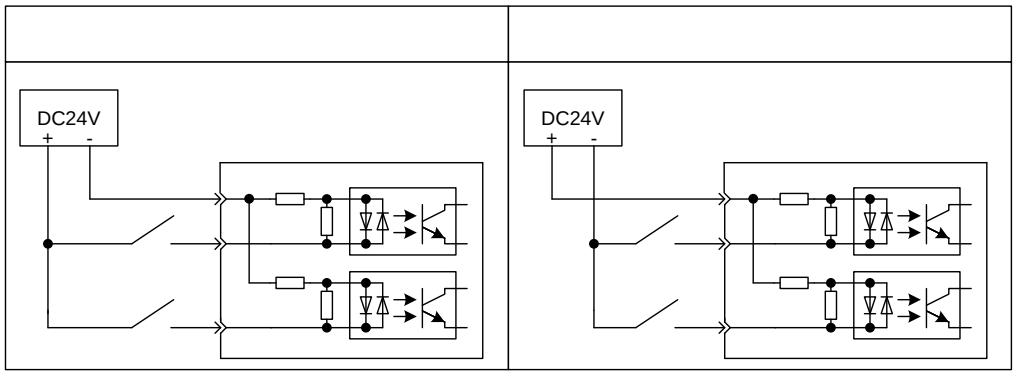
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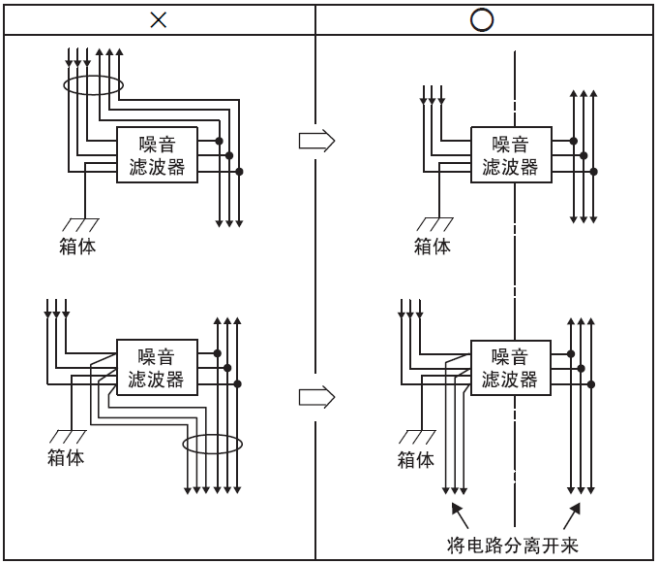
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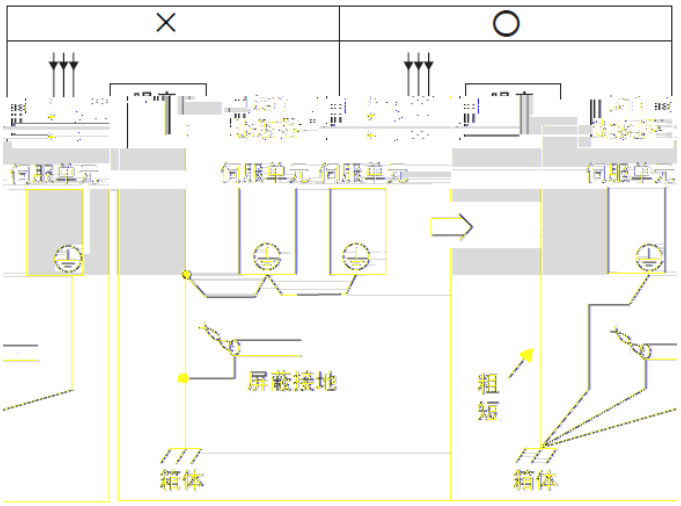
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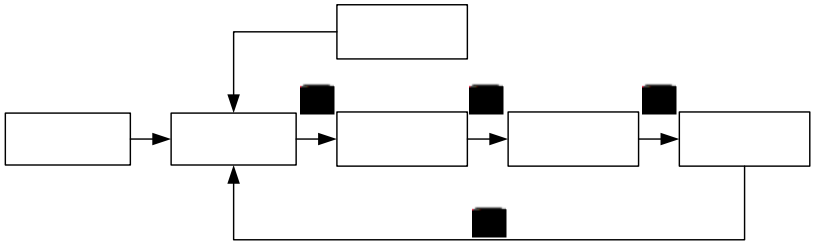

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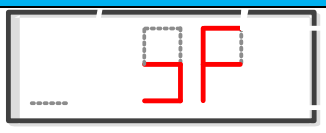			
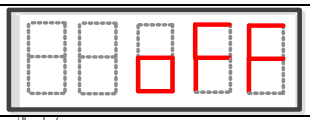			
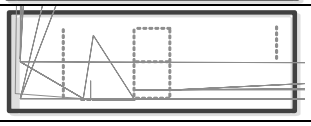			

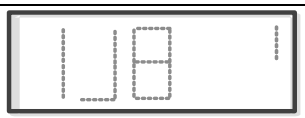			
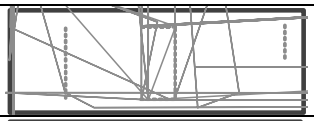			
			
			

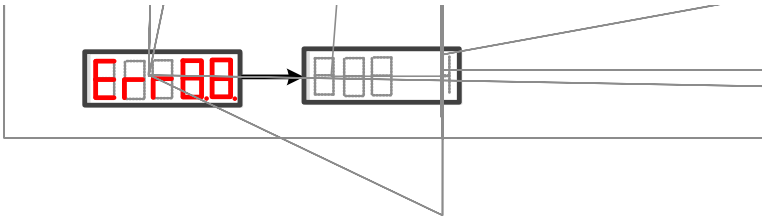

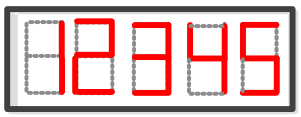

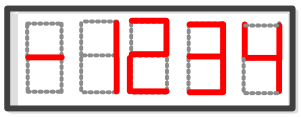

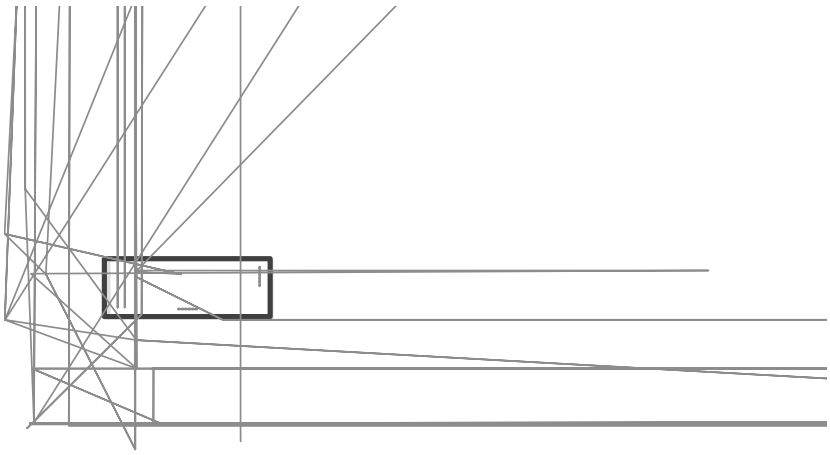

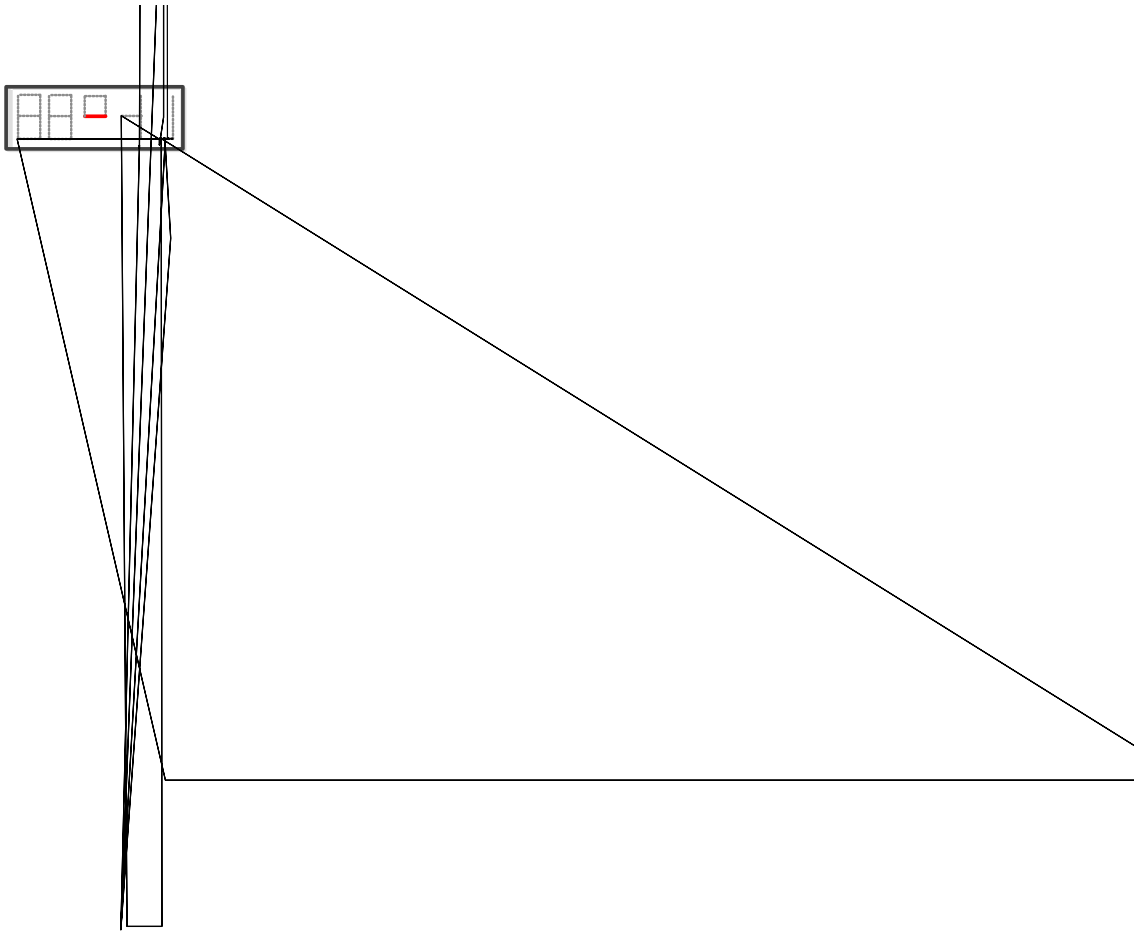

				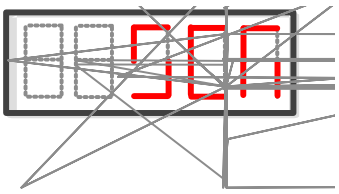 
				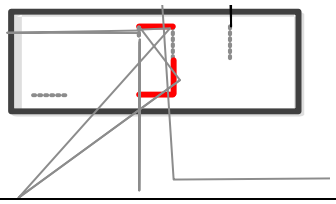
				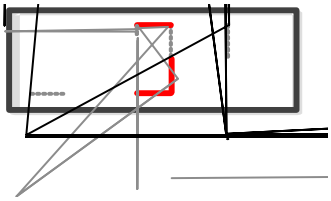 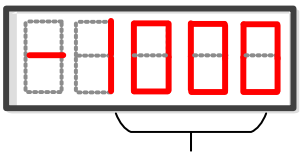
				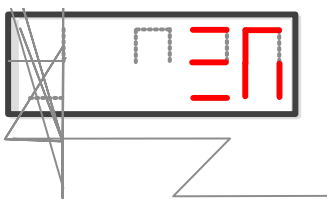
				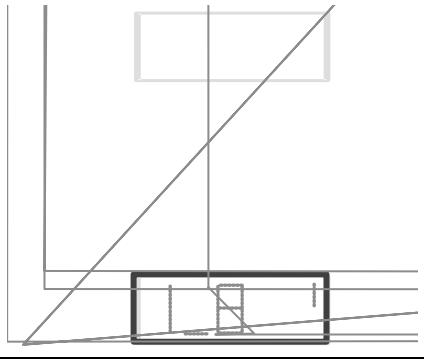

				
				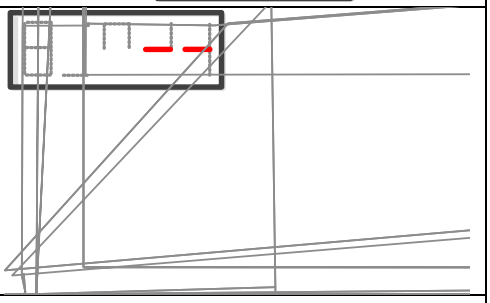

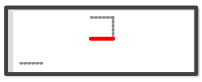

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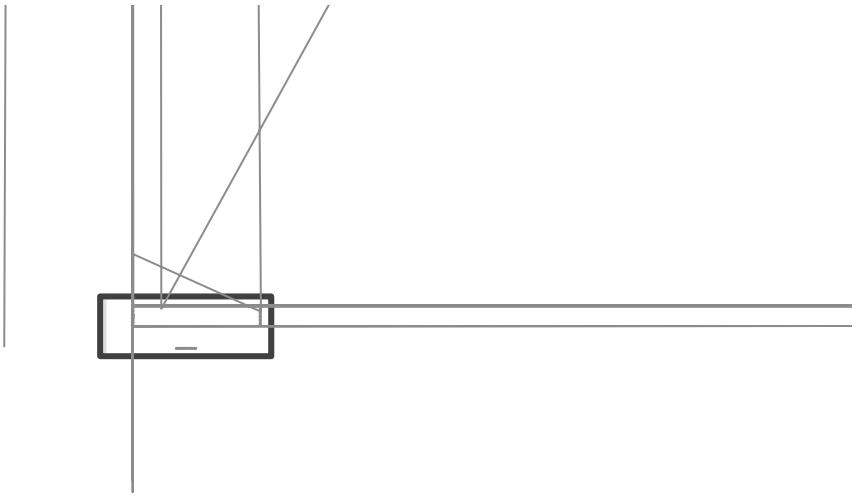

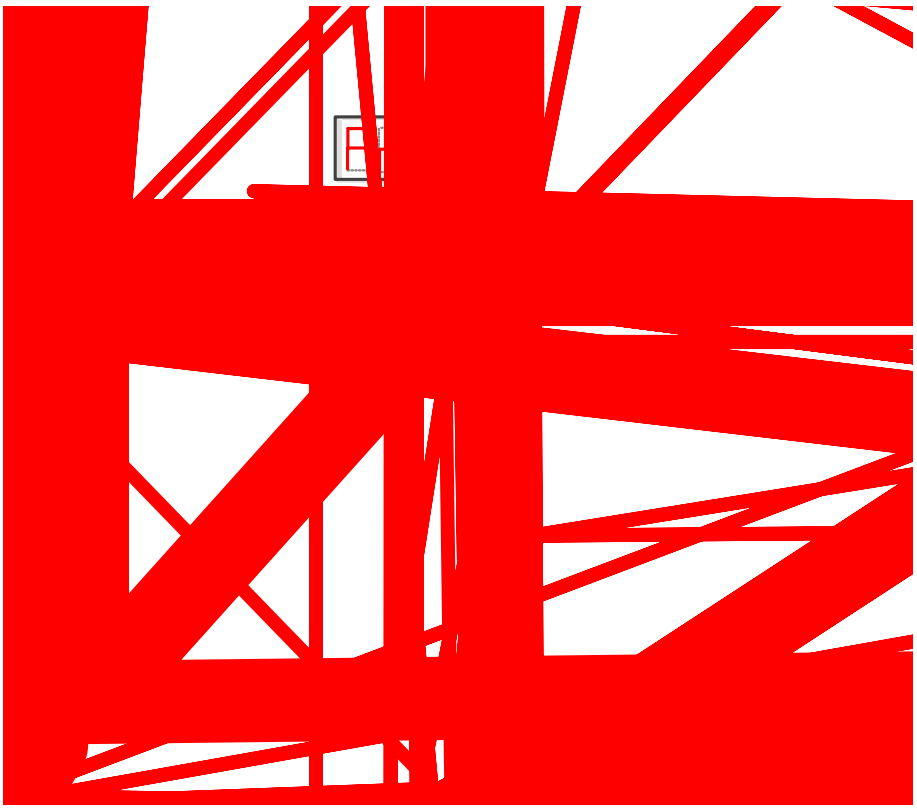

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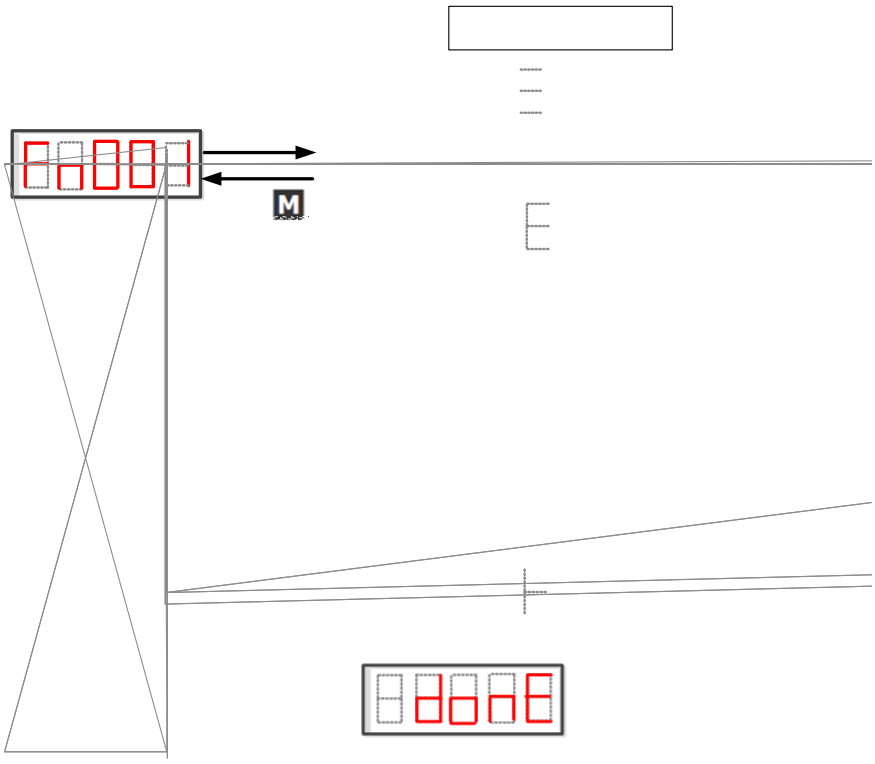

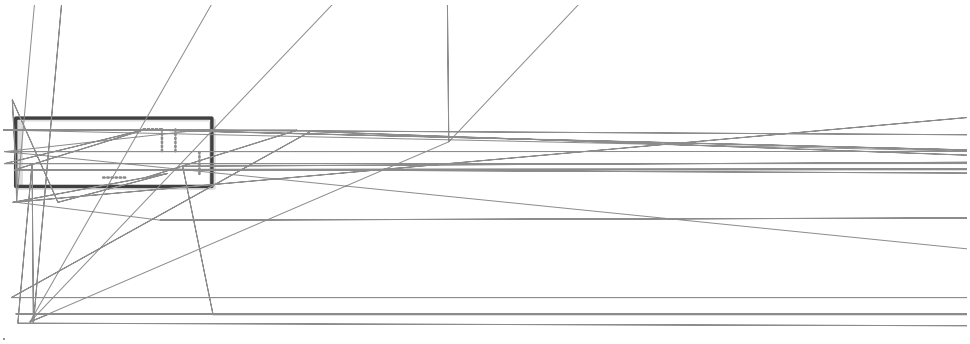

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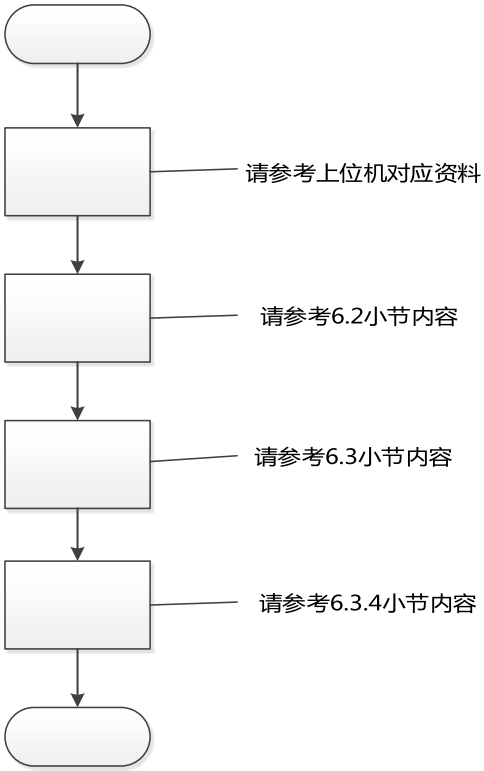
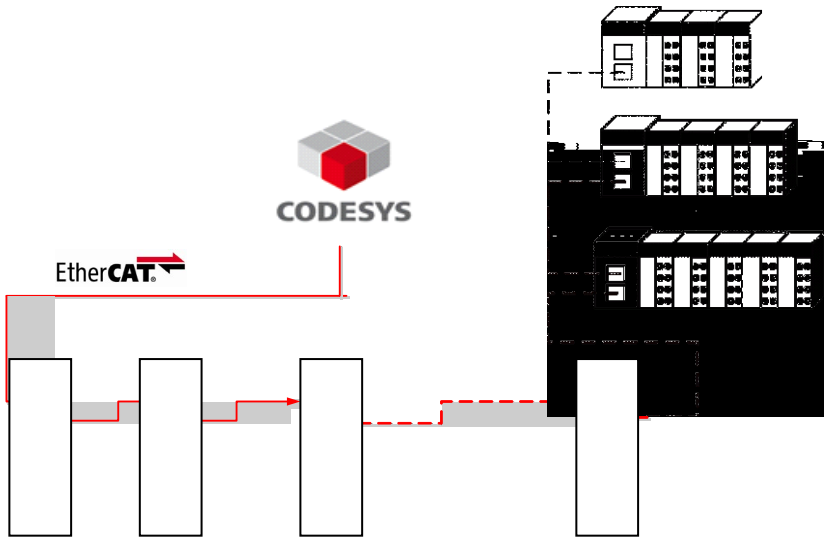

请参考上位机对应资料
请参考6.2小节内容
请参考6.3小节内容
请参考6.3.4小节内容



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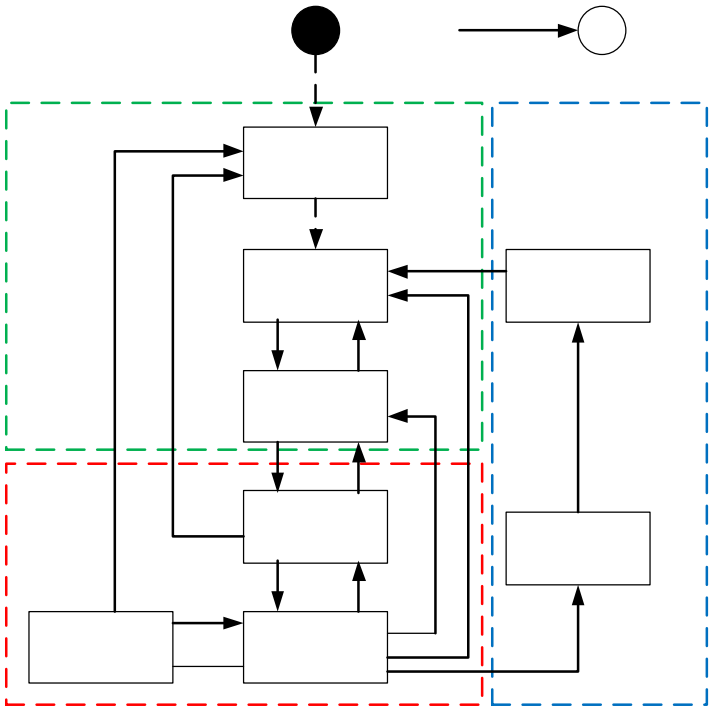

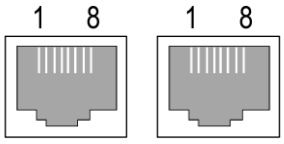
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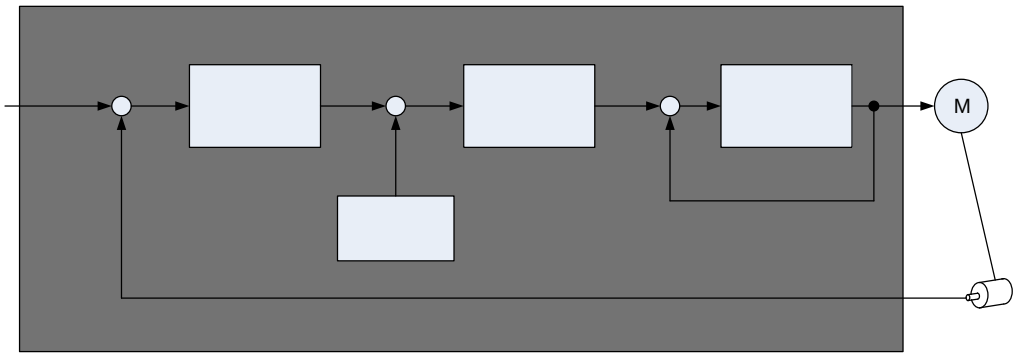
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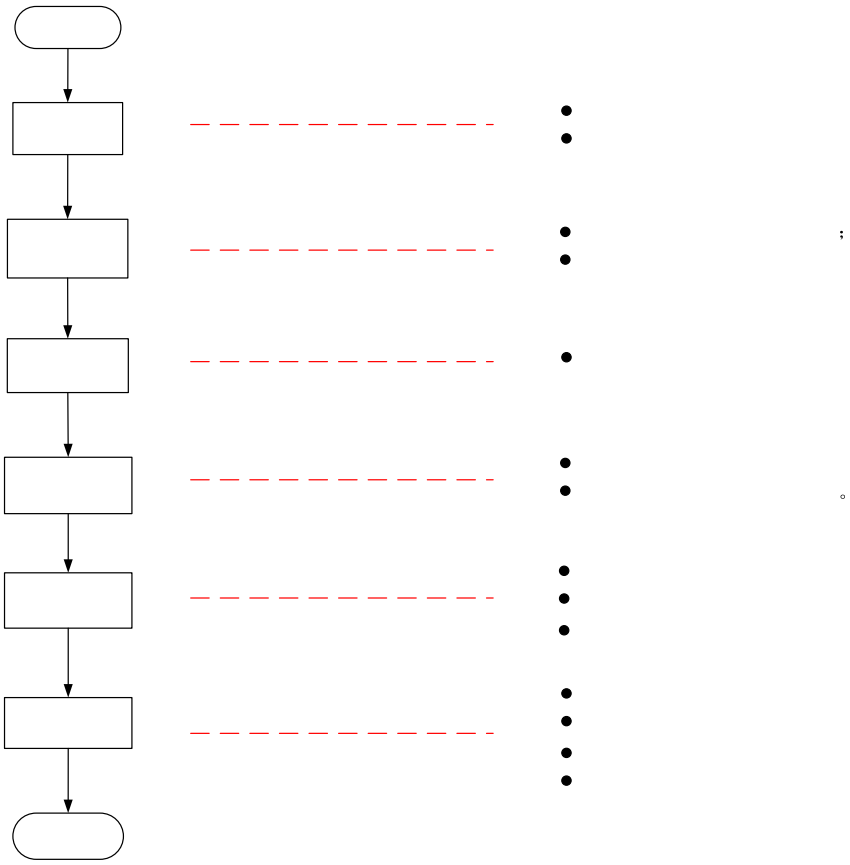

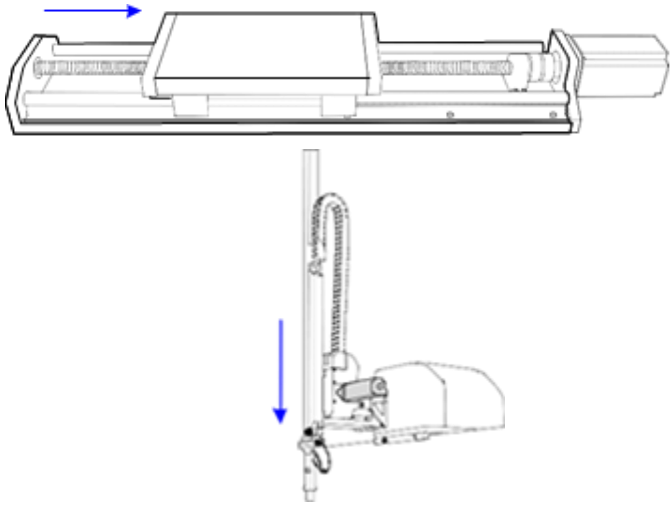

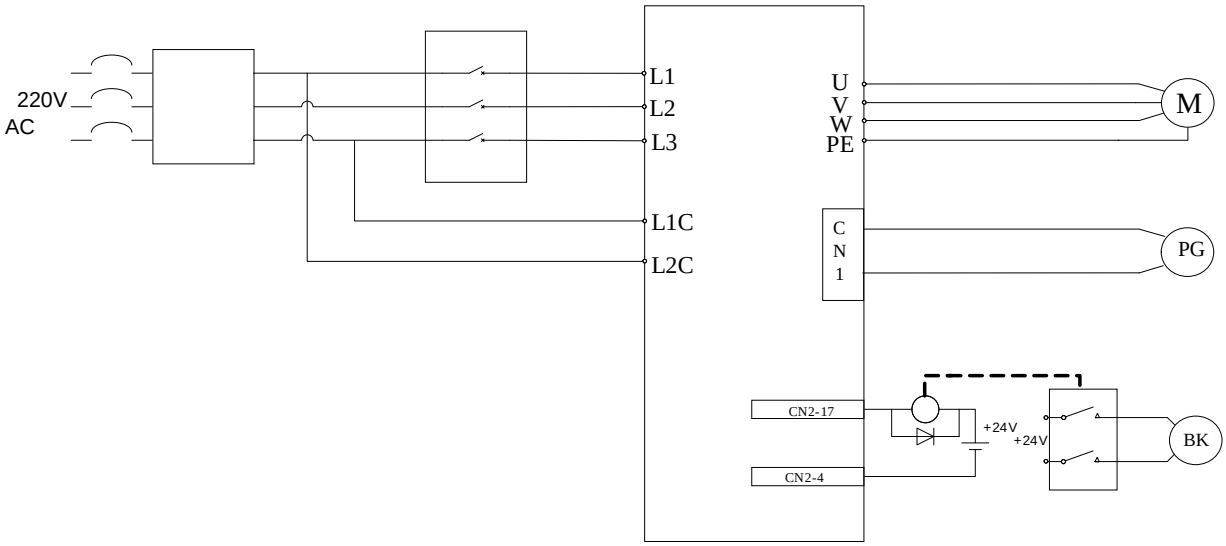
220V
AC
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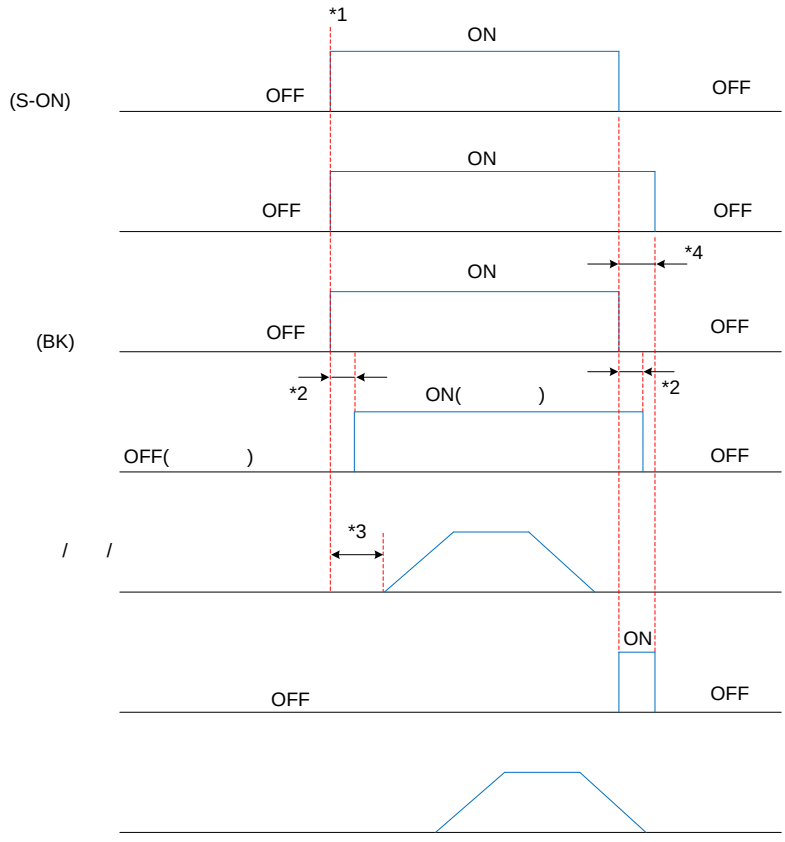
CN2-4
+24V
+24V
BK


*1
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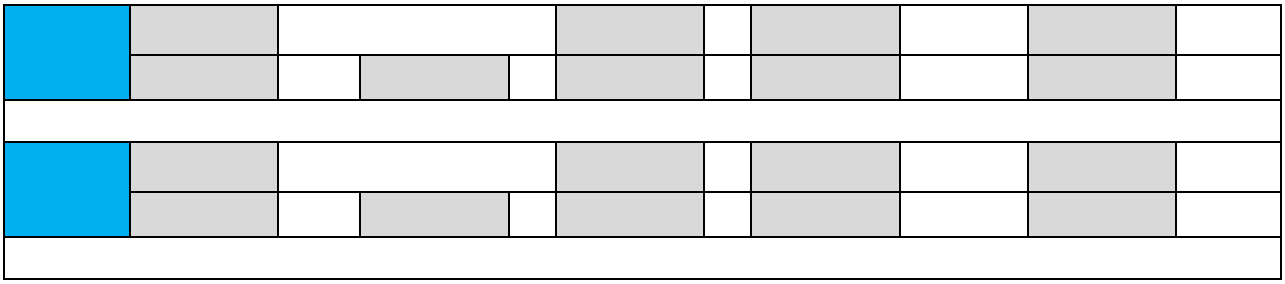

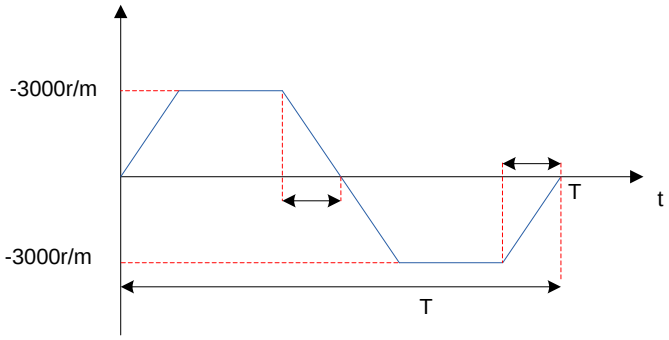
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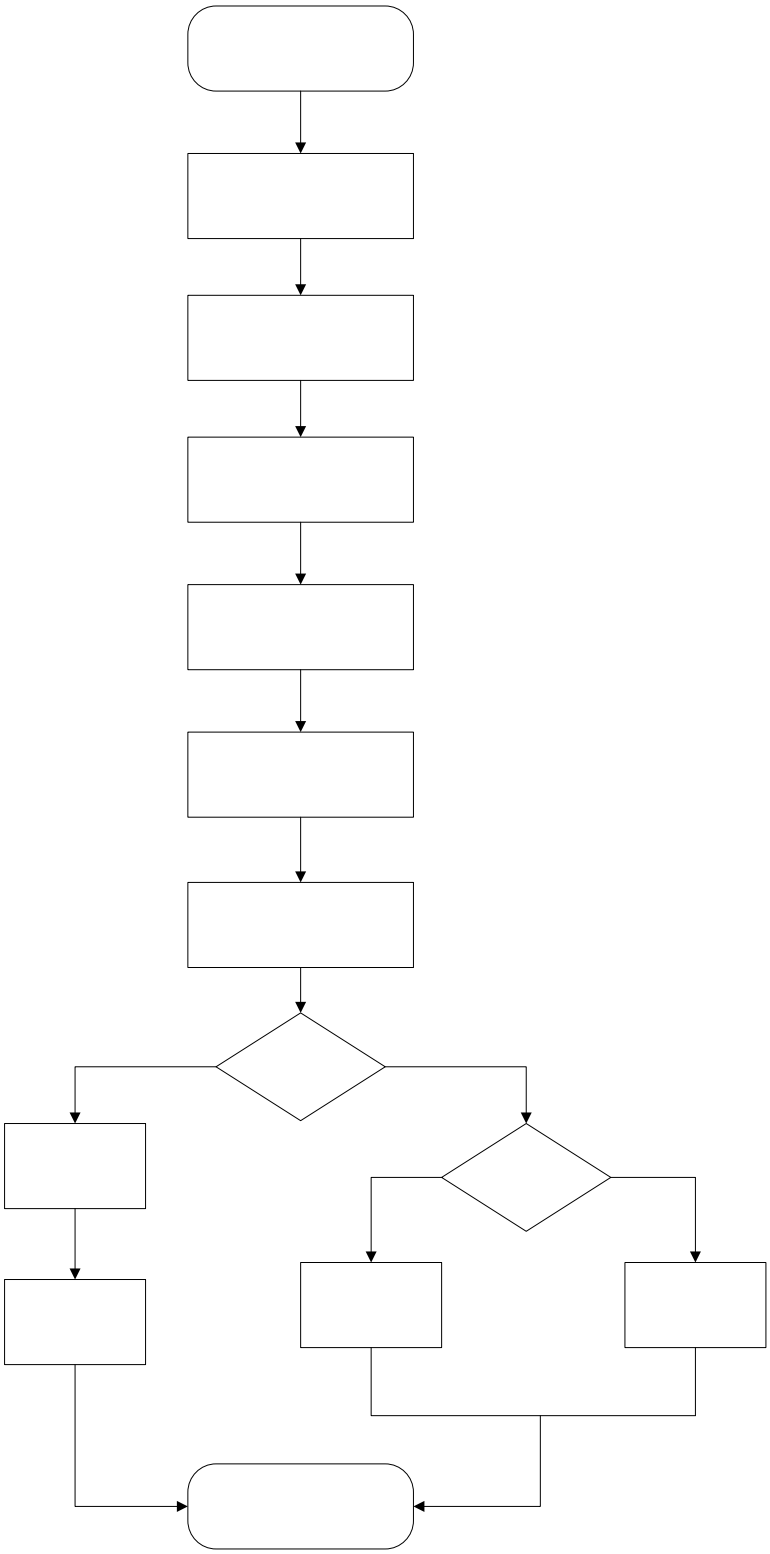

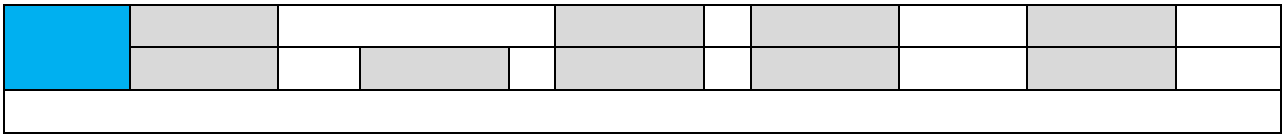

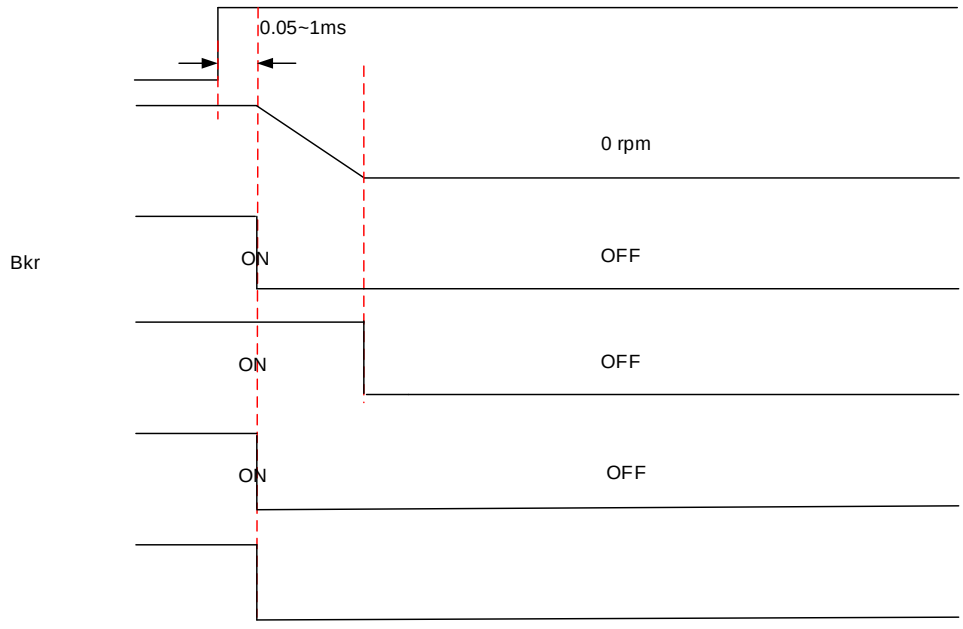
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0 rpm
Bkr
ON
OFF
ON
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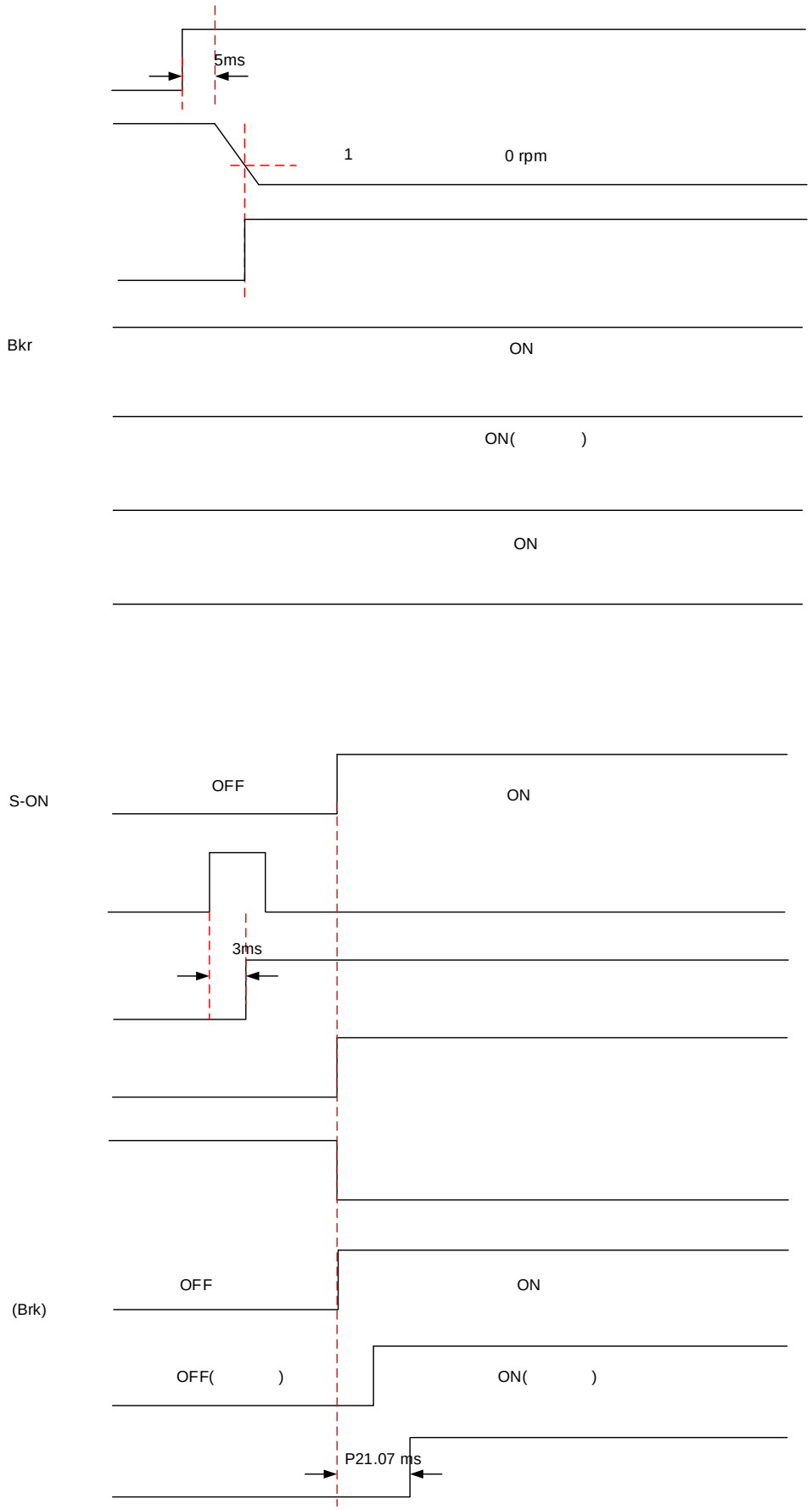
ON
OFF


5ms
1
0 rpm
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ON( )
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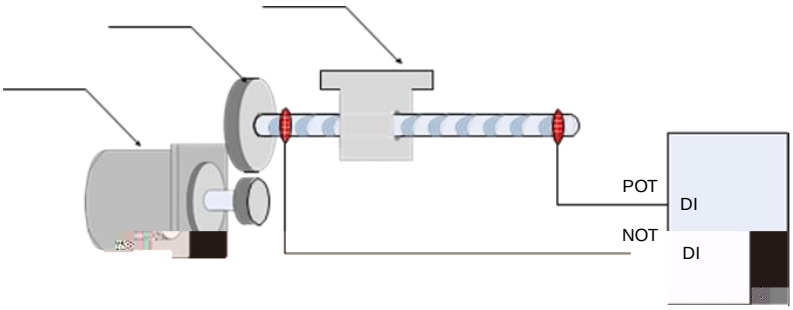
3ms
OFF
ON
(Brk)
OFF( )
ON( )
P21.07 ms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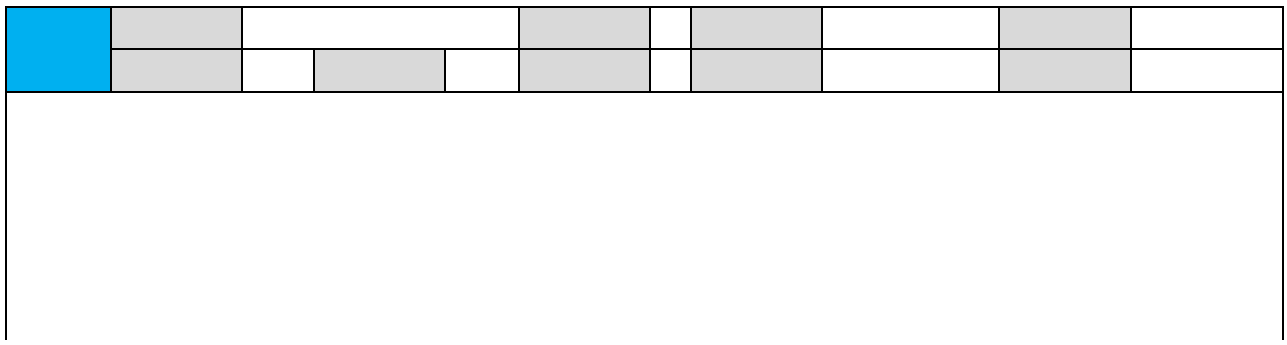
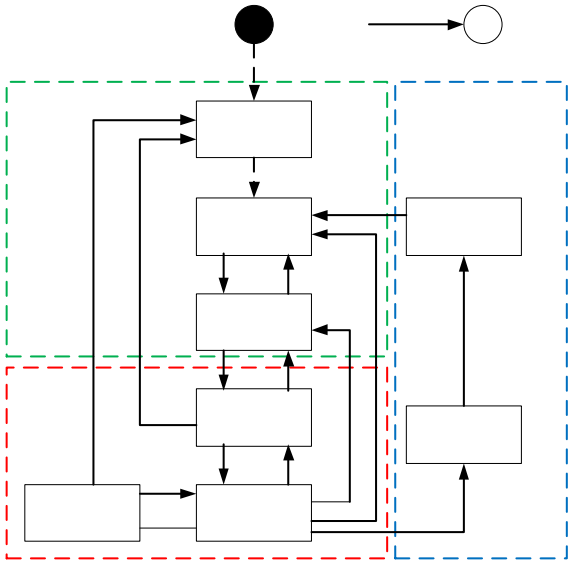
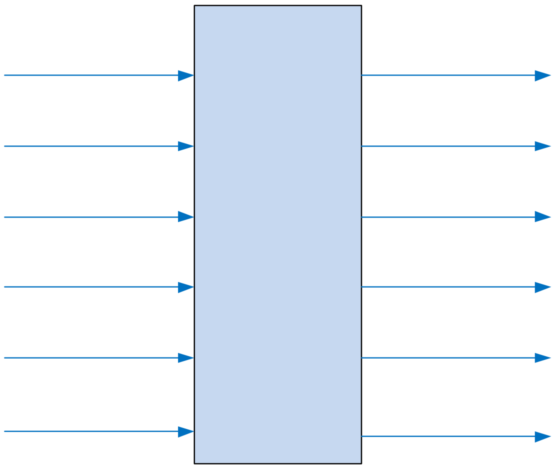


$$(\text{rpm}) = \frac{\times \quad !}{\quad^{h}} \times 60$$





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						2^3 2^3	
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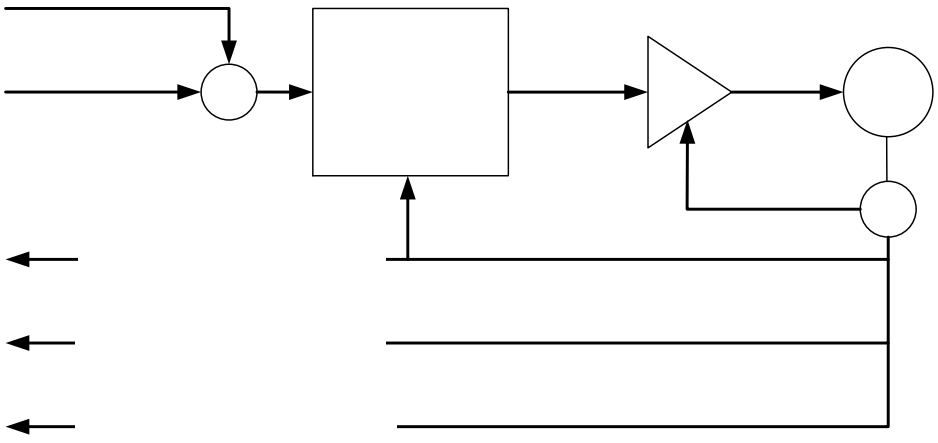

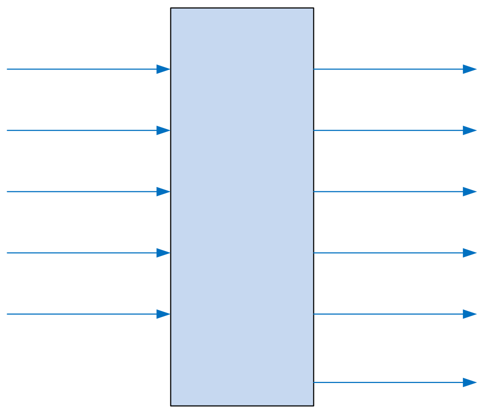

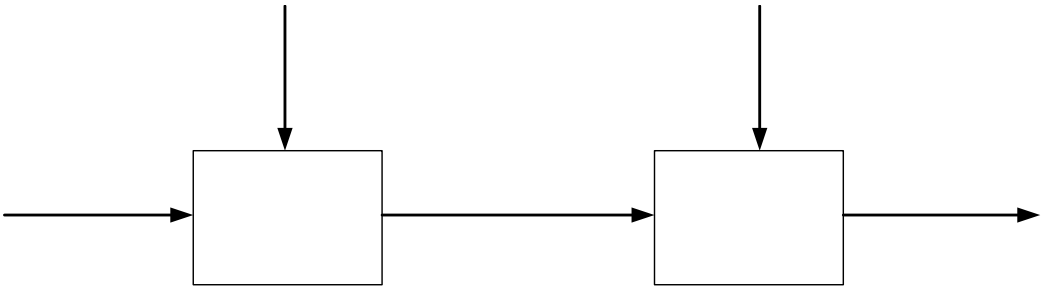

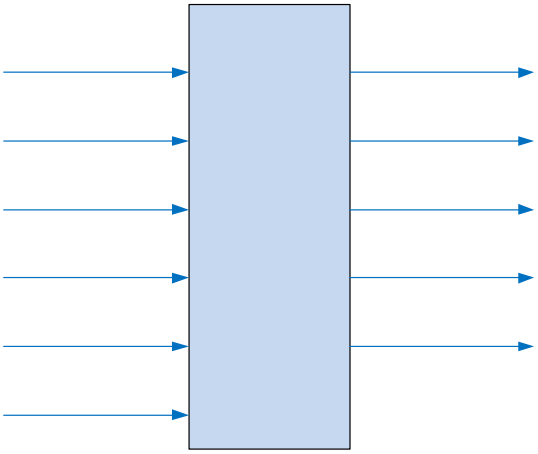

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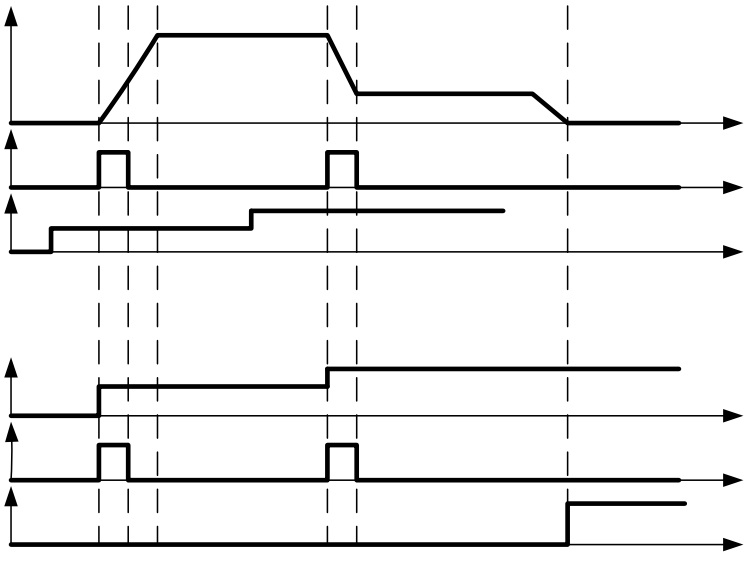

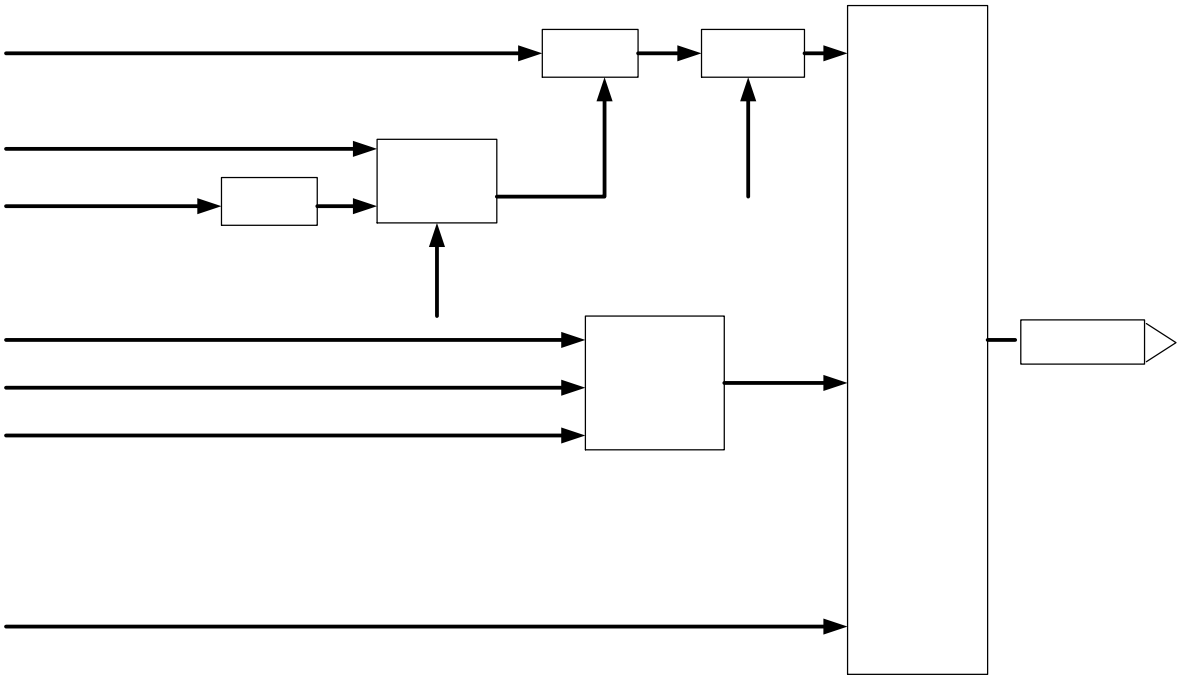

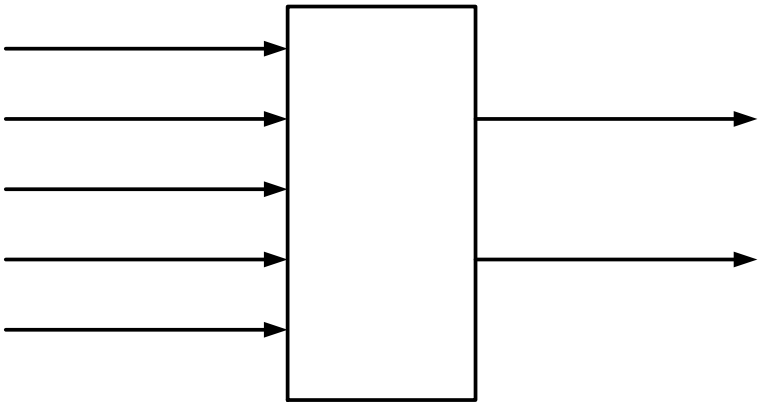

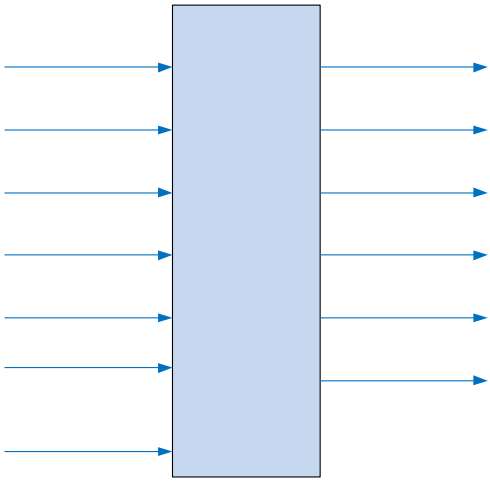

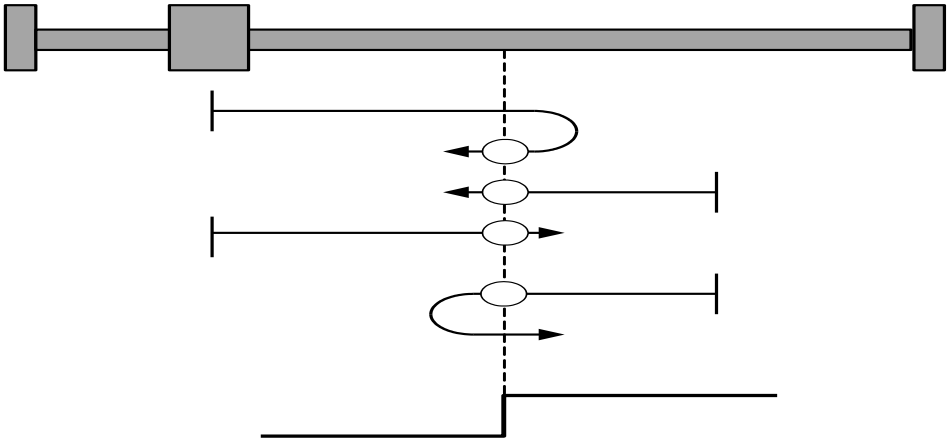

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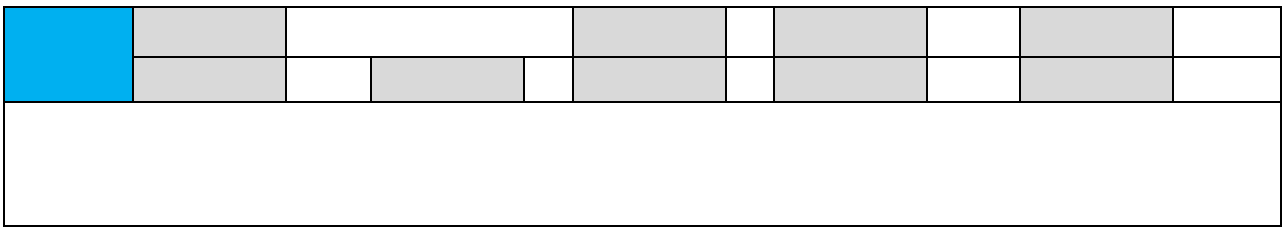

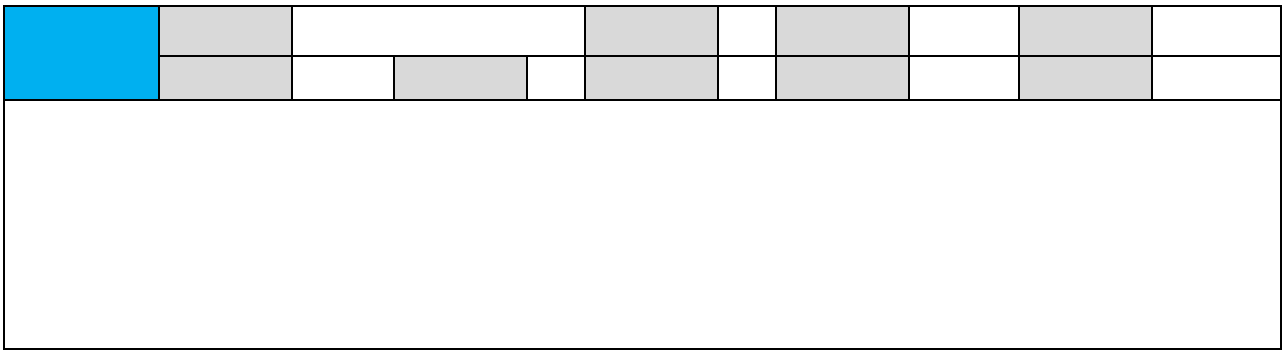

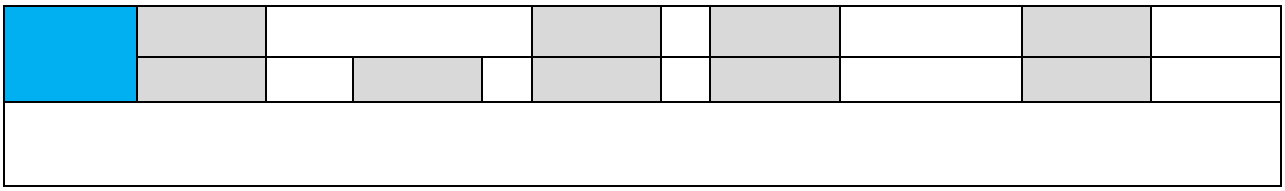

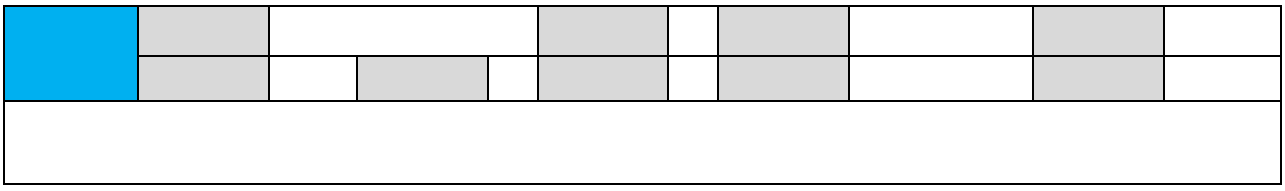

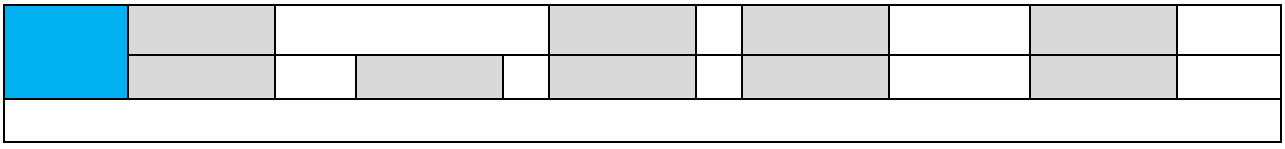

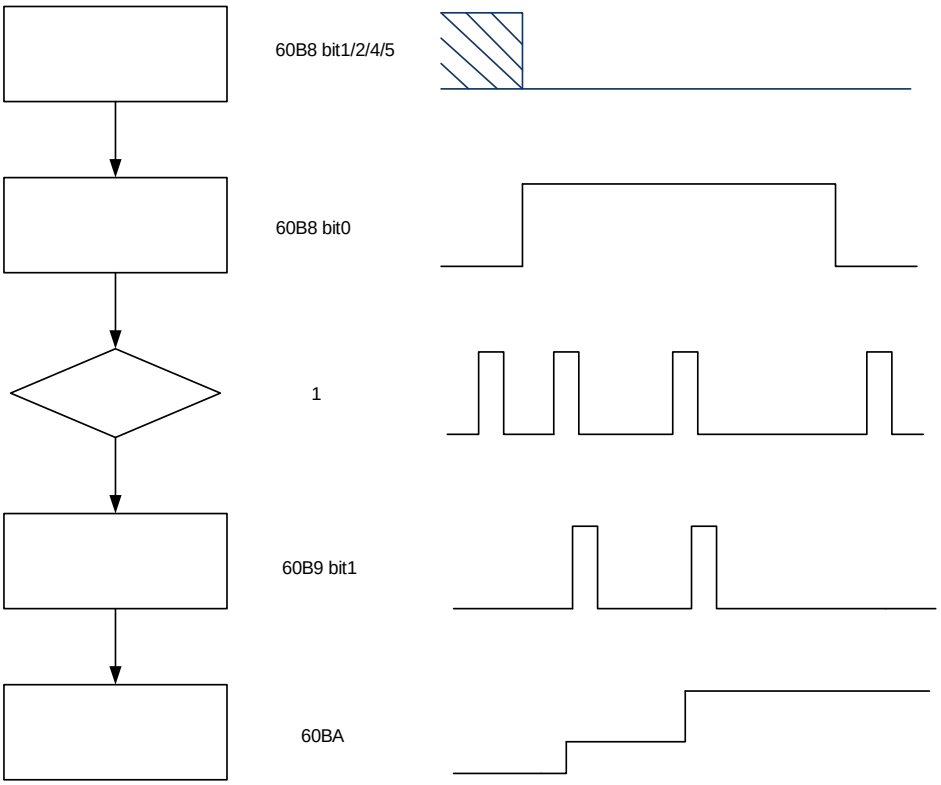
60B8 bit1/2/4/5
60B8 bit0
1
60B9 bit1
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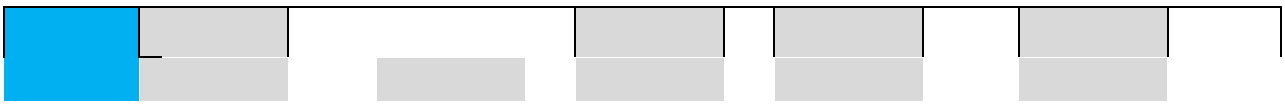

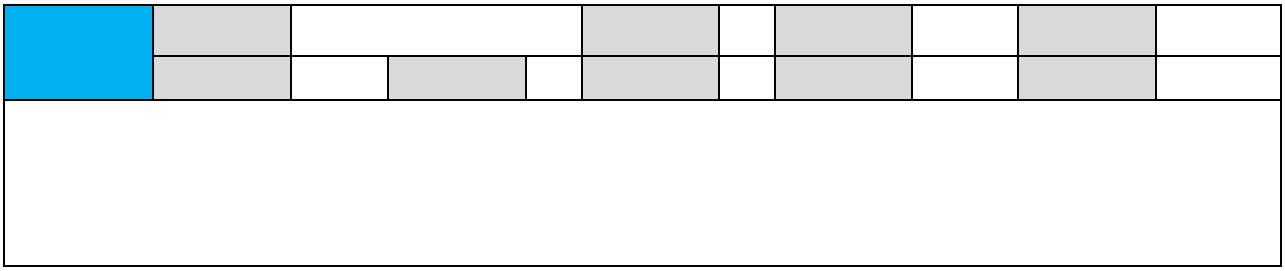

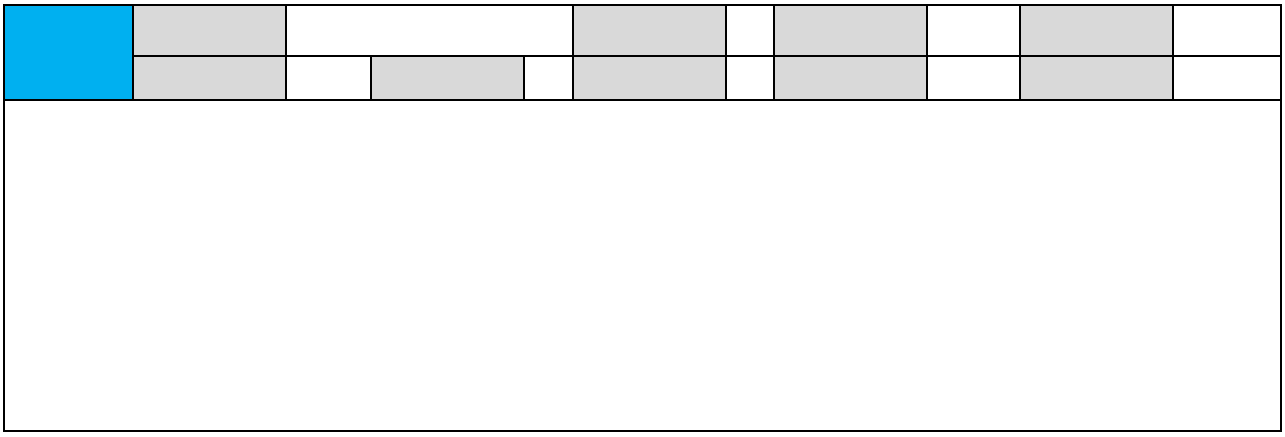

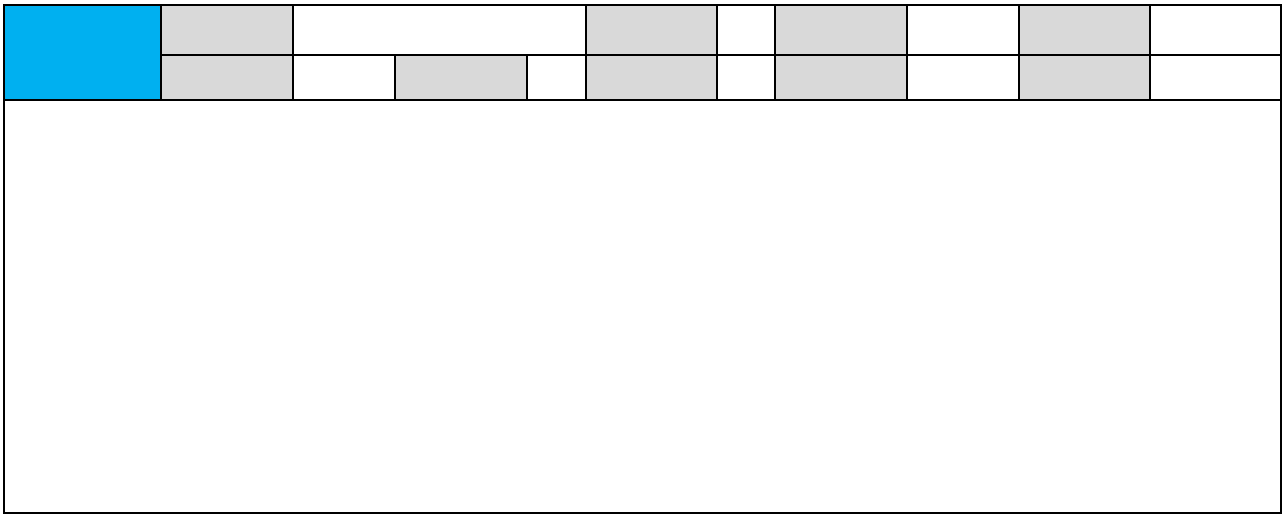

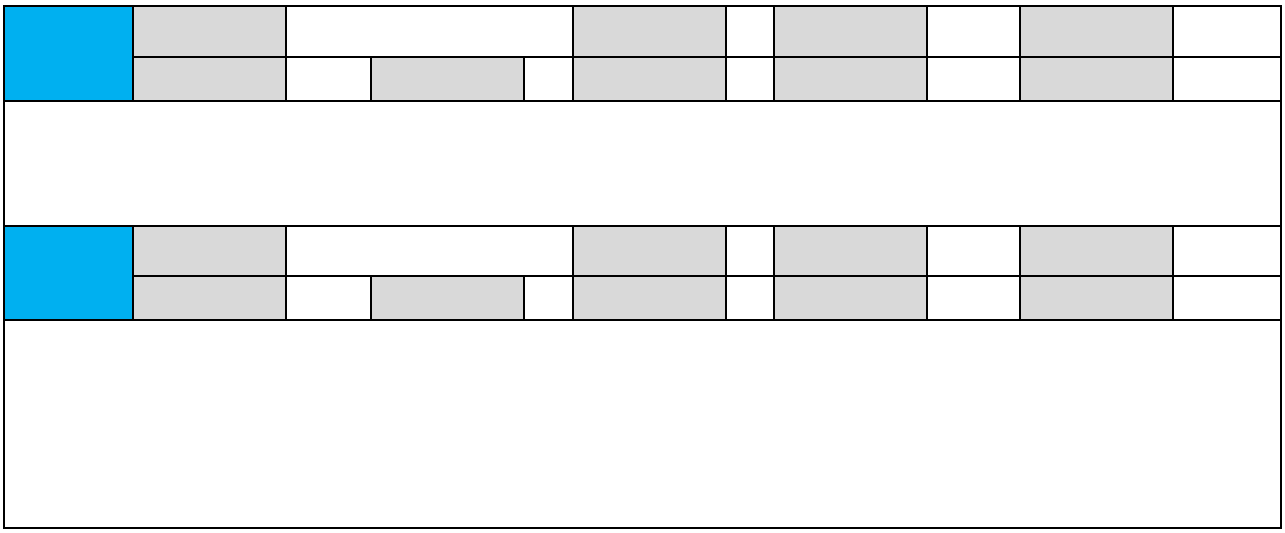

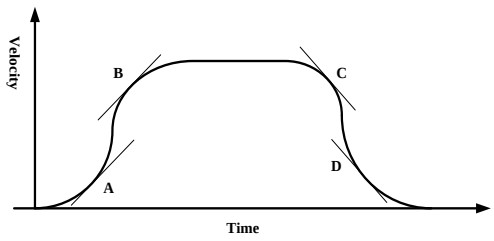
Velocity
B
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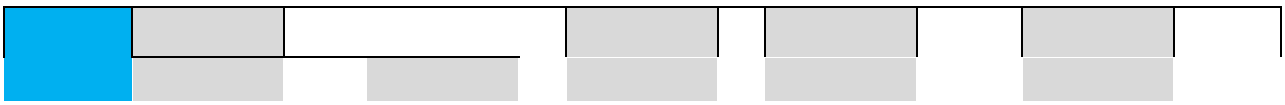

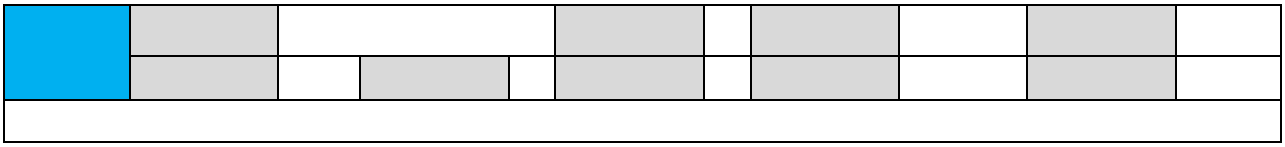

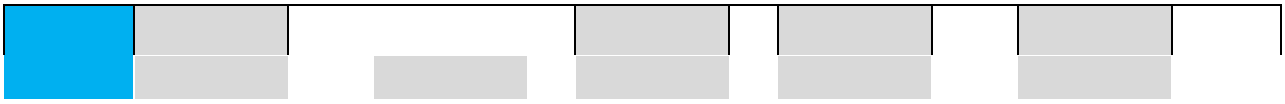

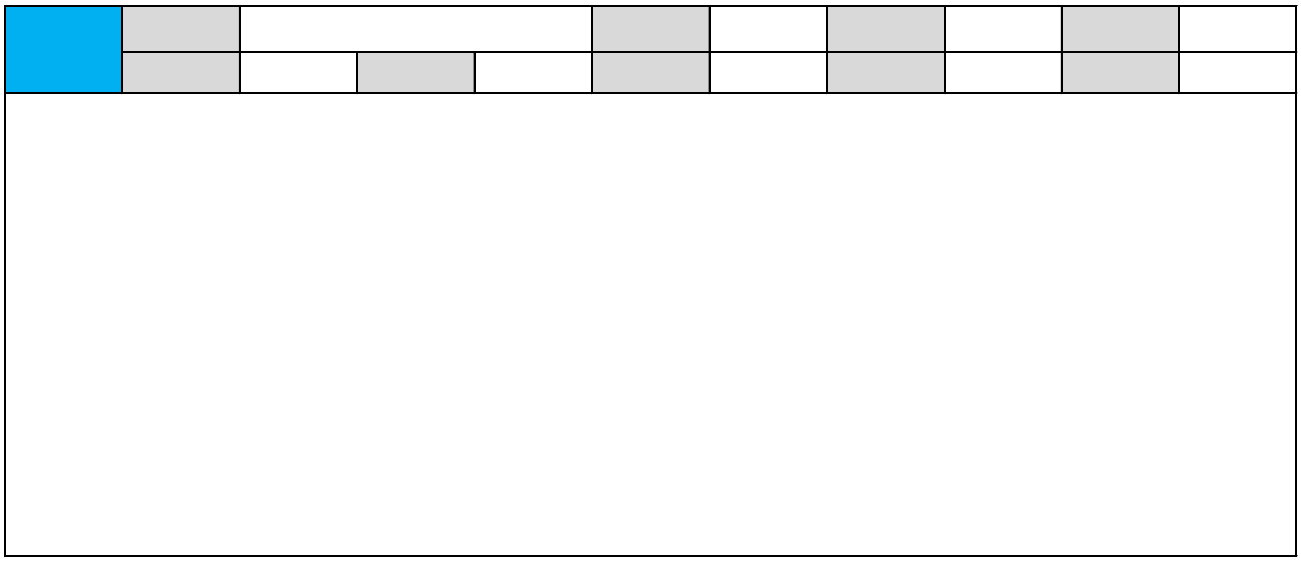

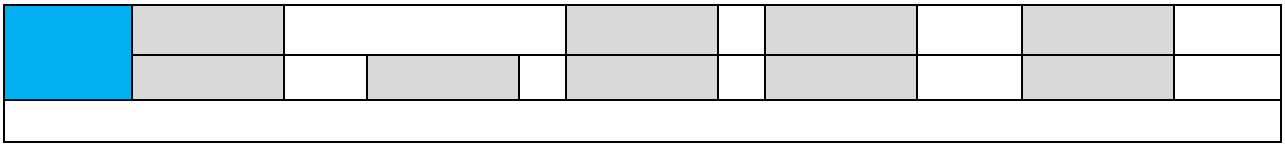

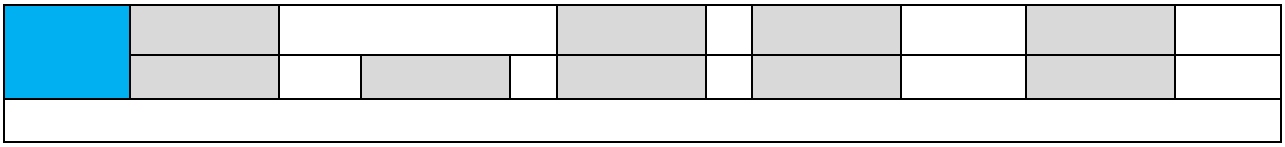

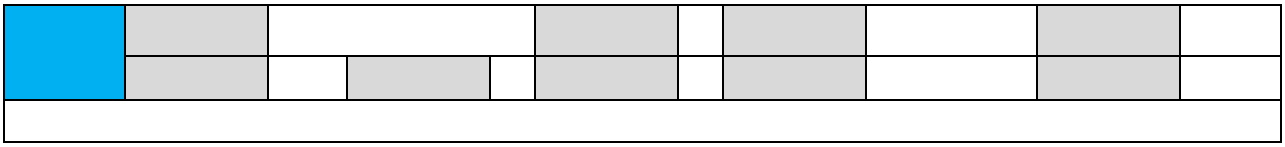

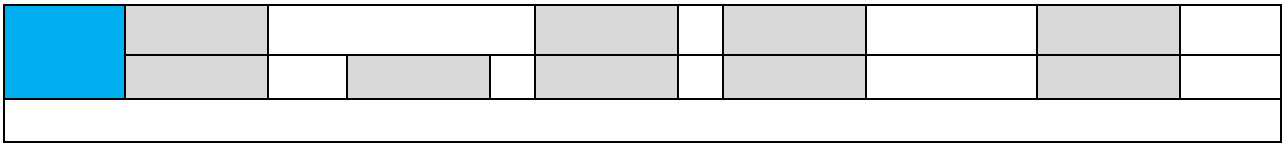

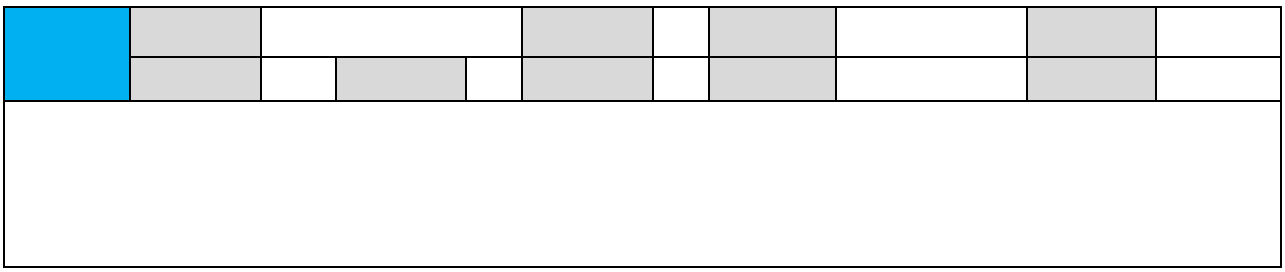

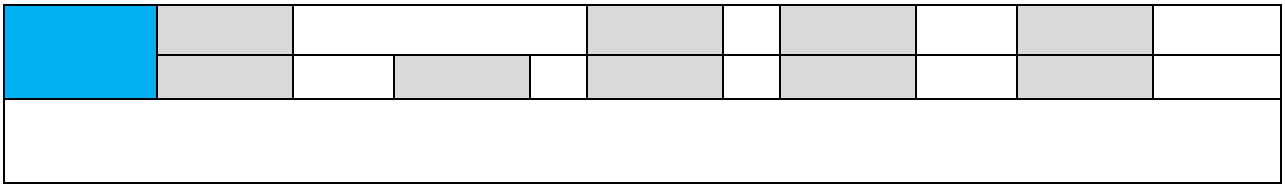

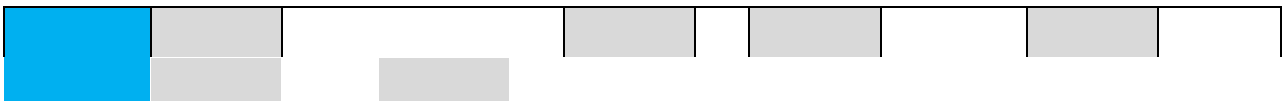

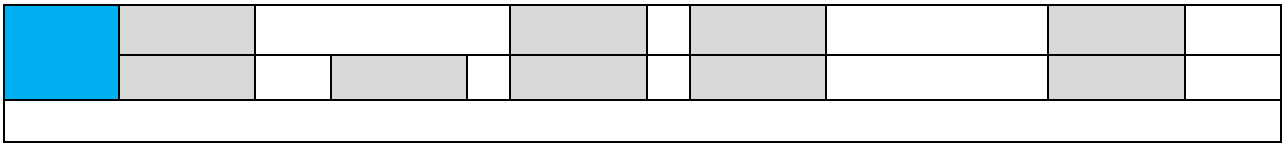

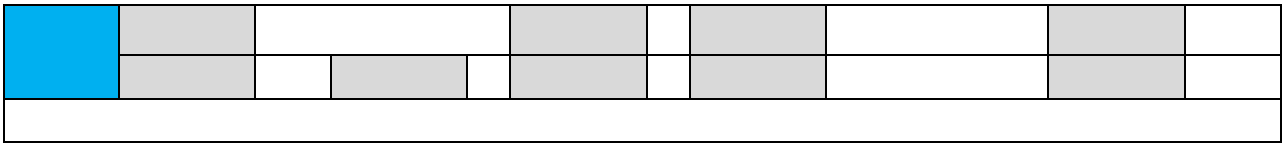

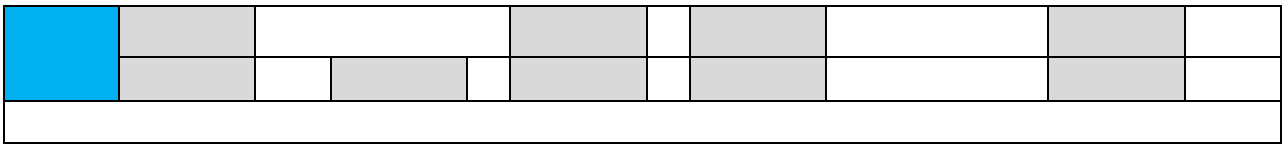

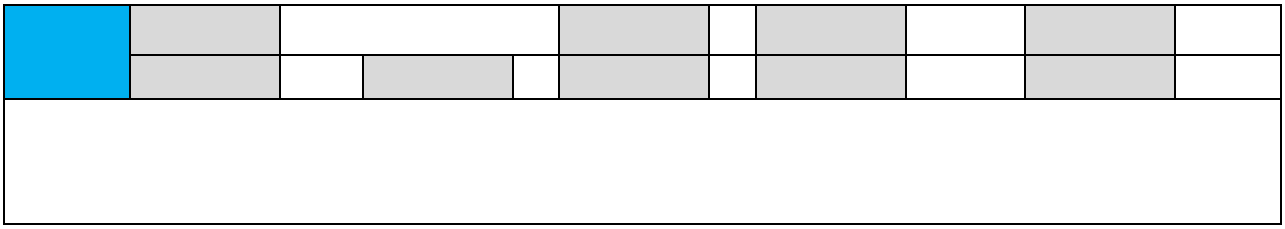

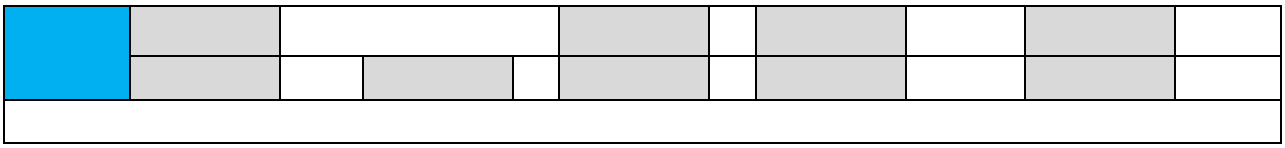

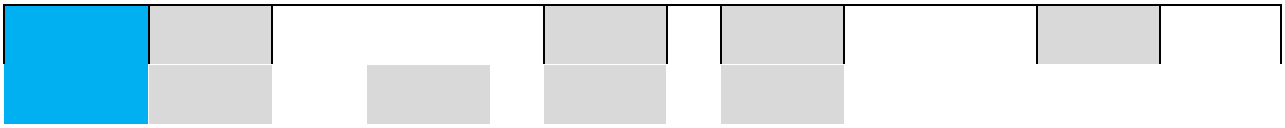

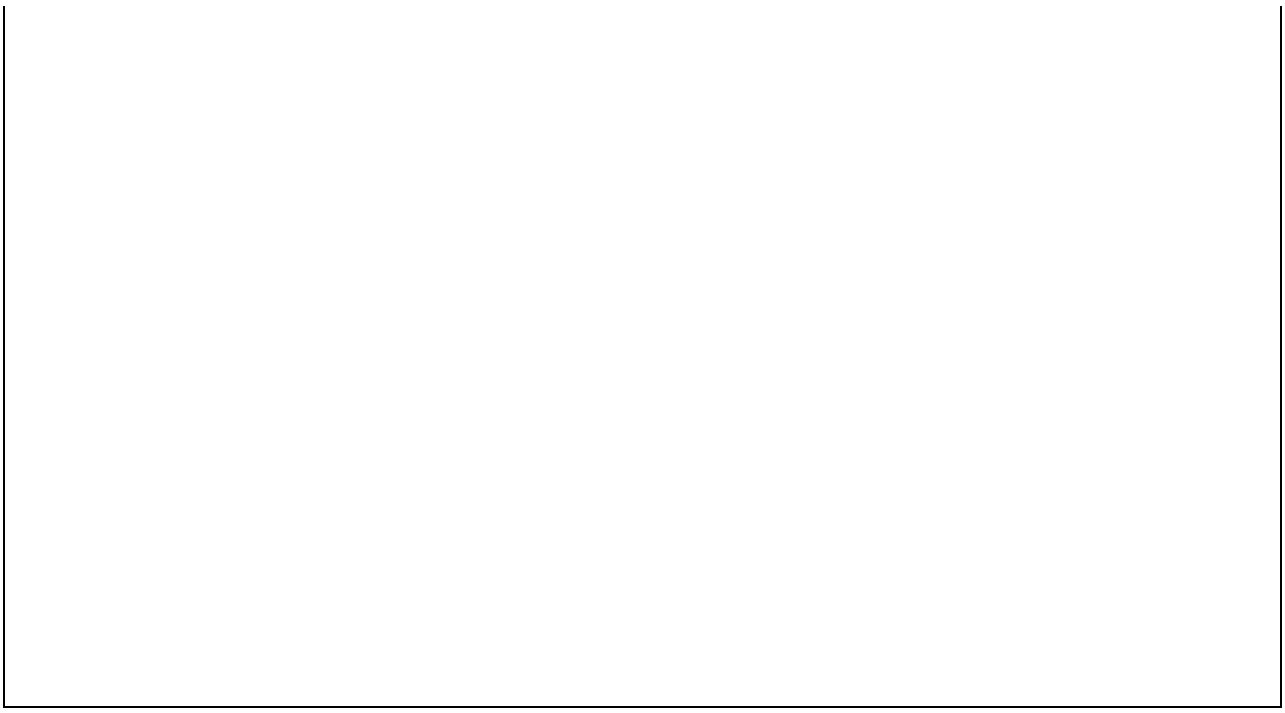

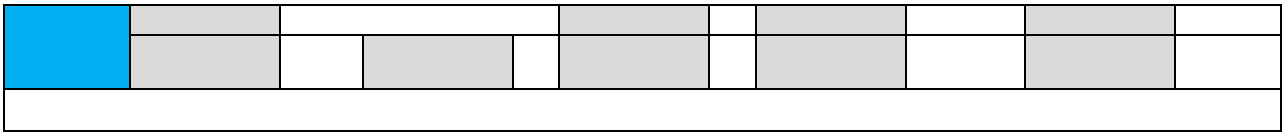

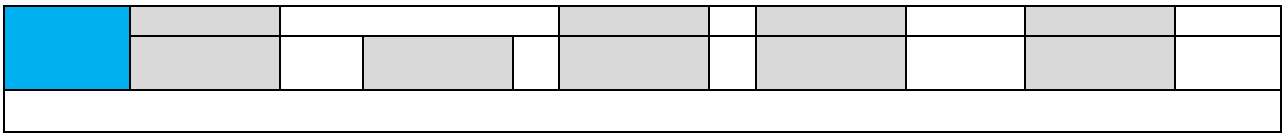

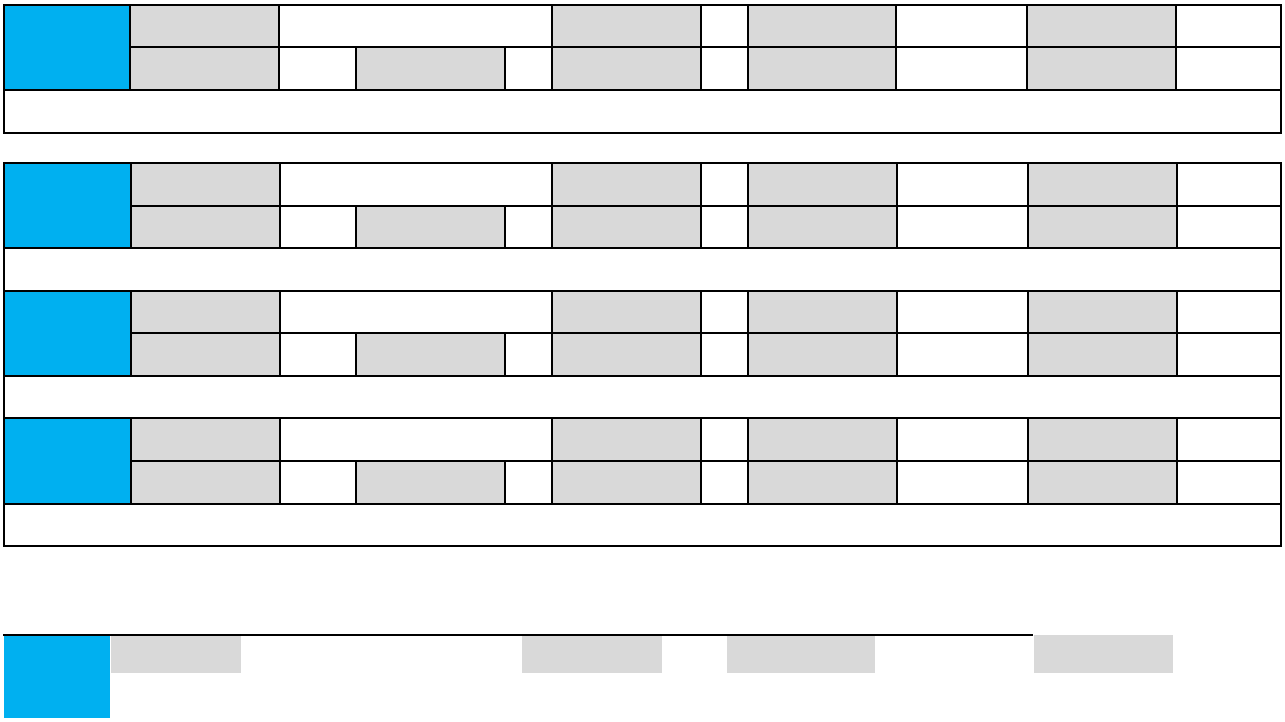

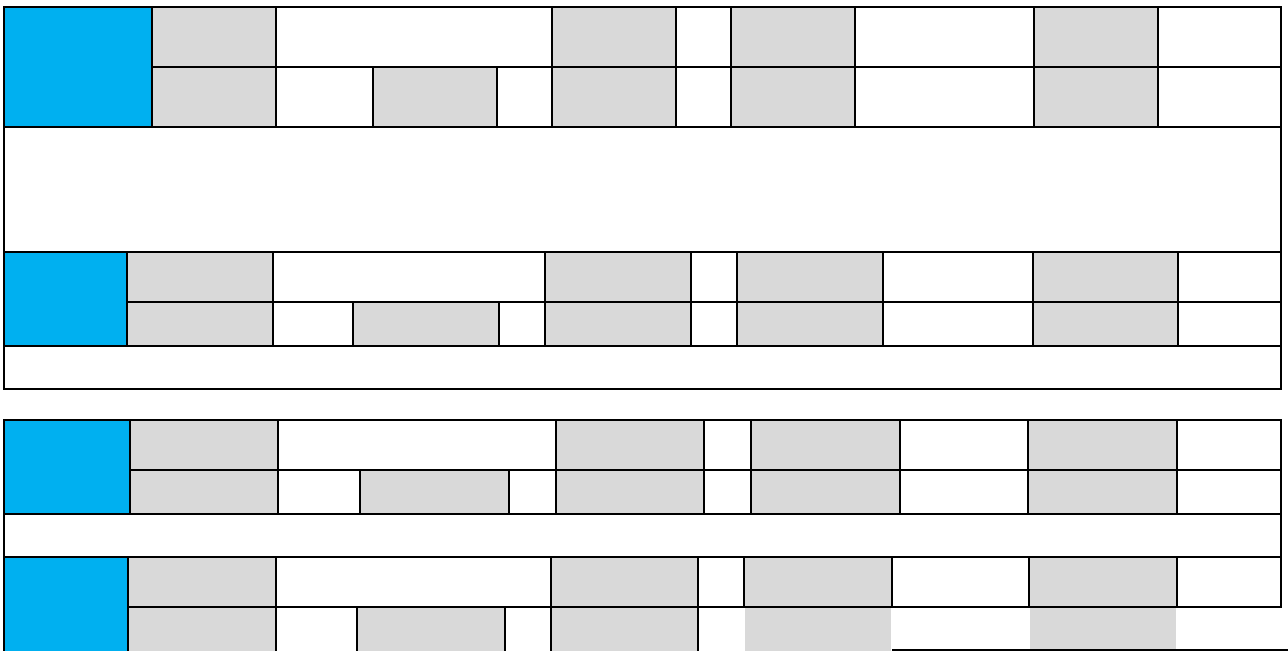

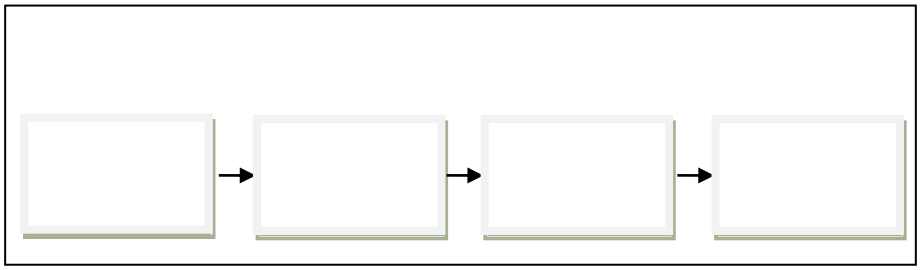

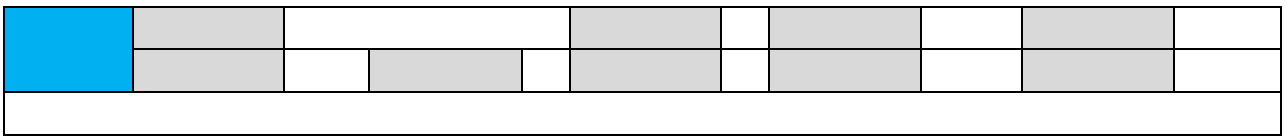

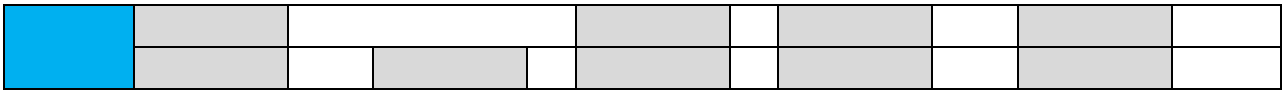

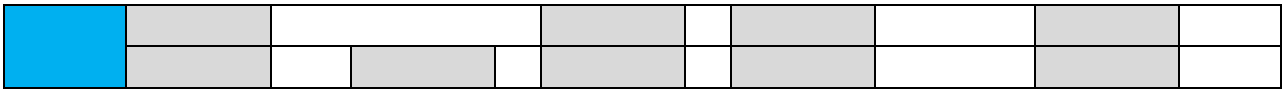

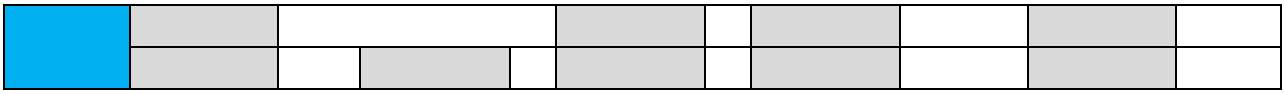

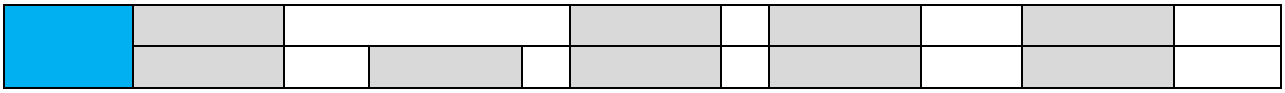

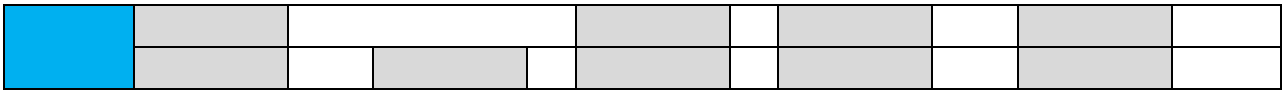

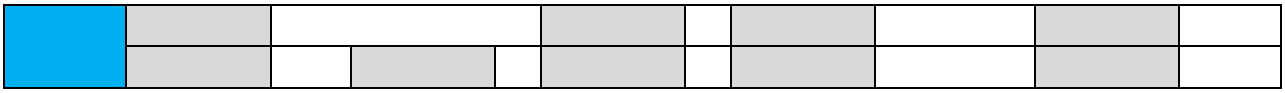

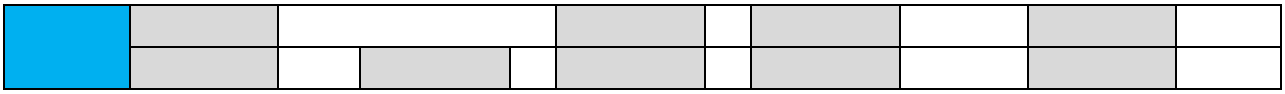

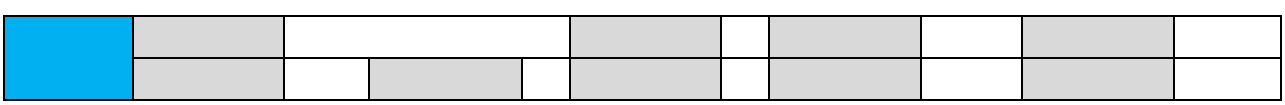

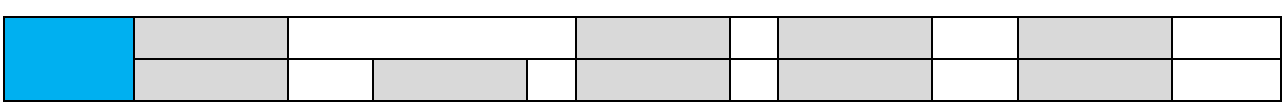

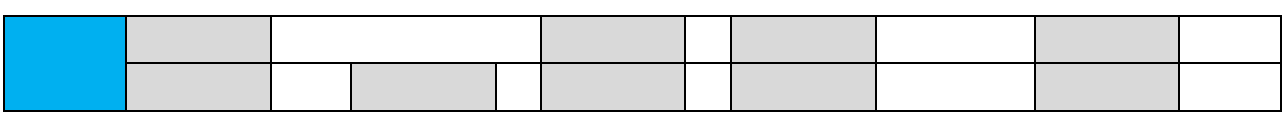

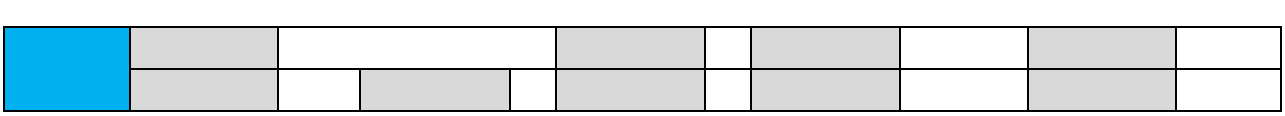

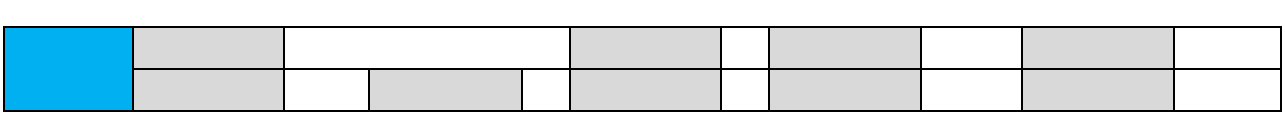

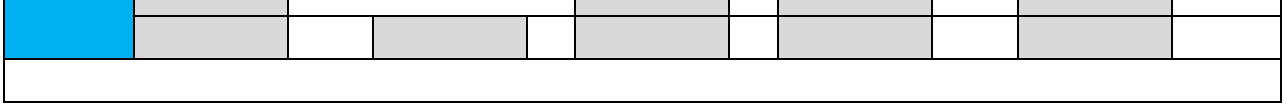

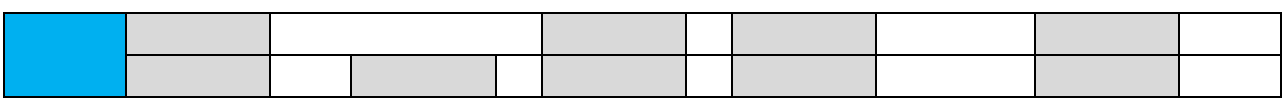

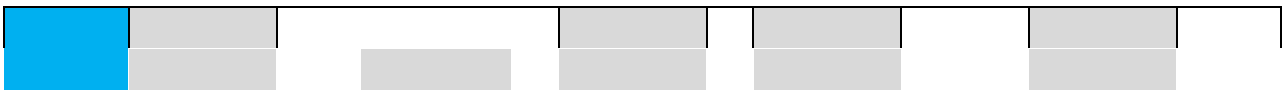

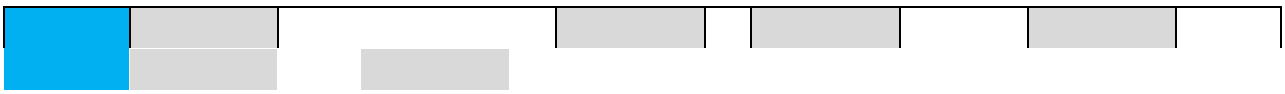

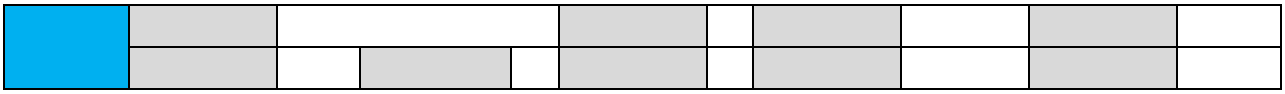

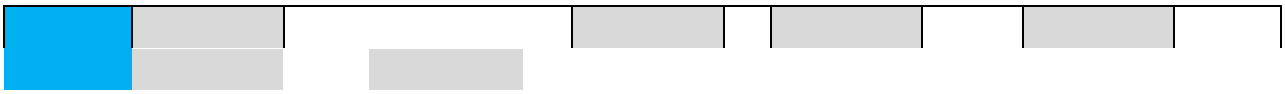

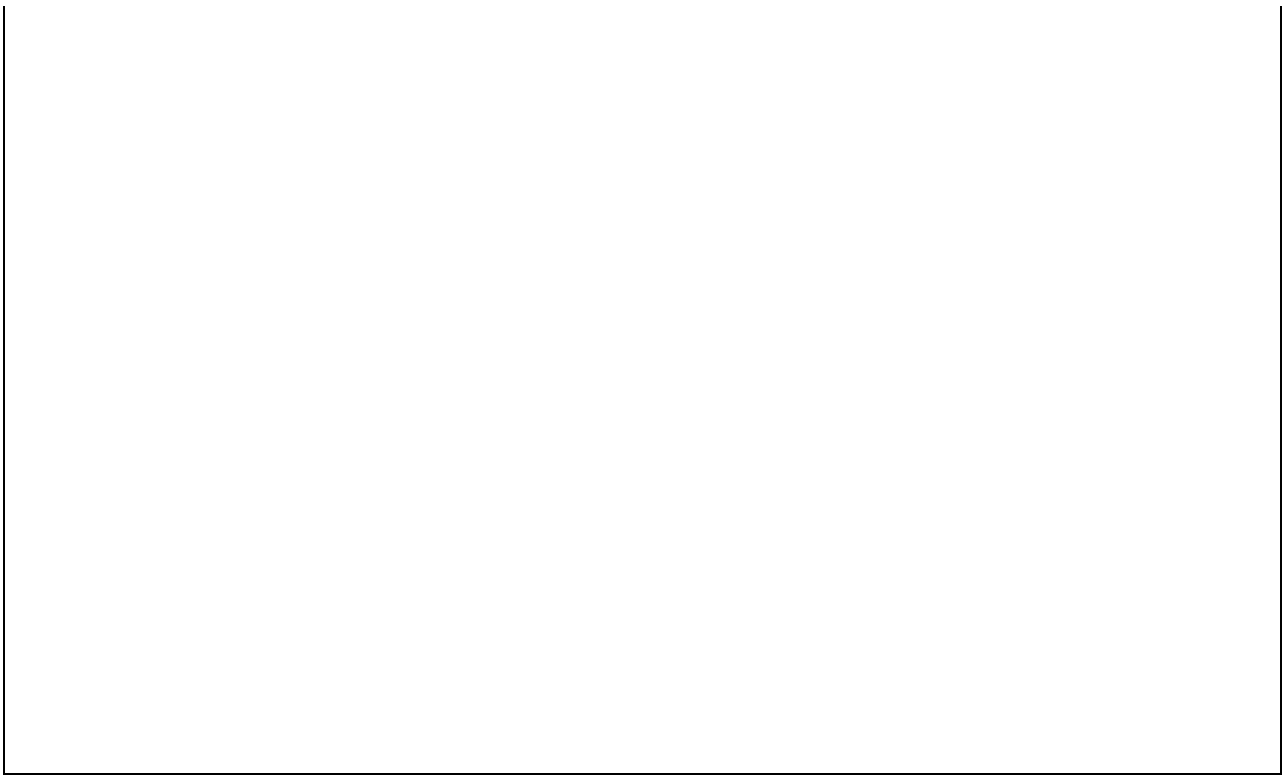

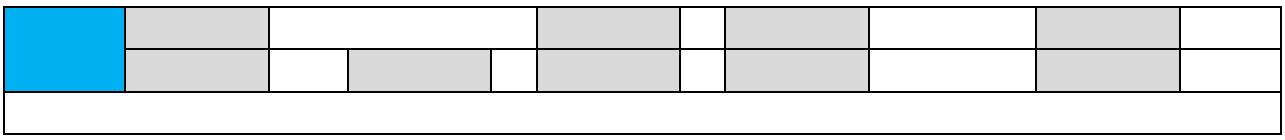

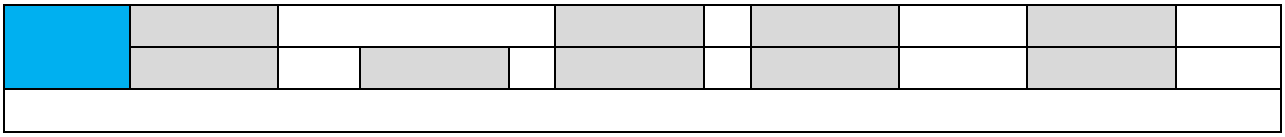

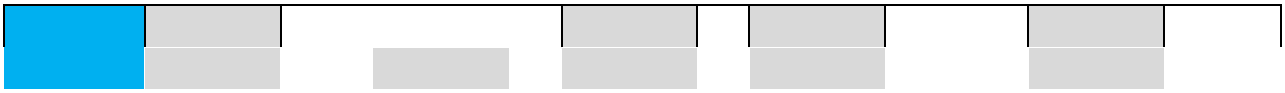

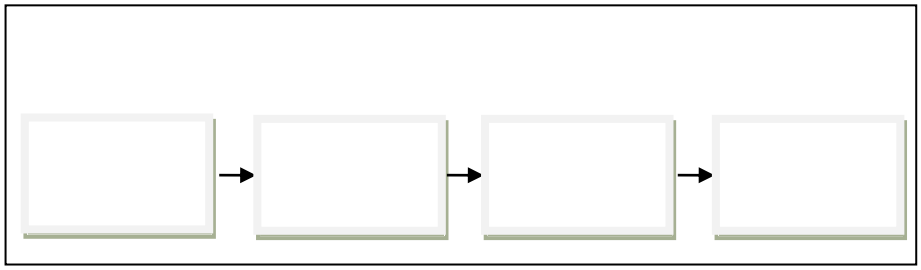

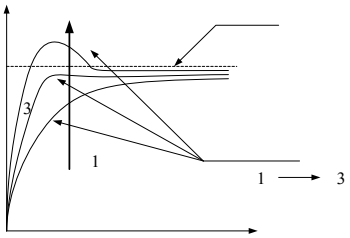
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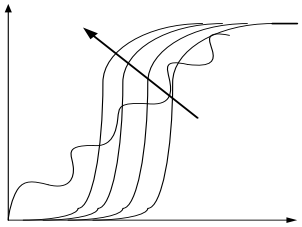

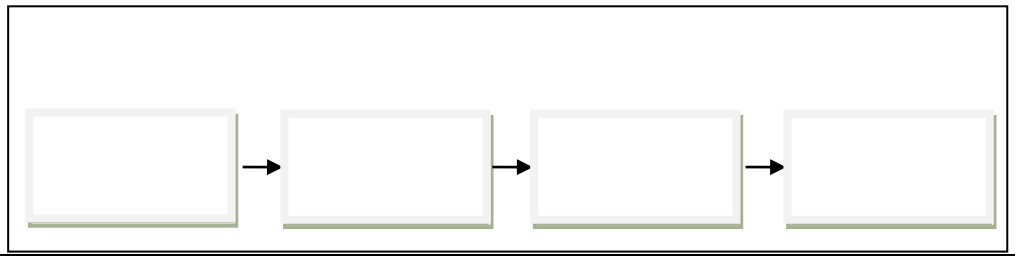

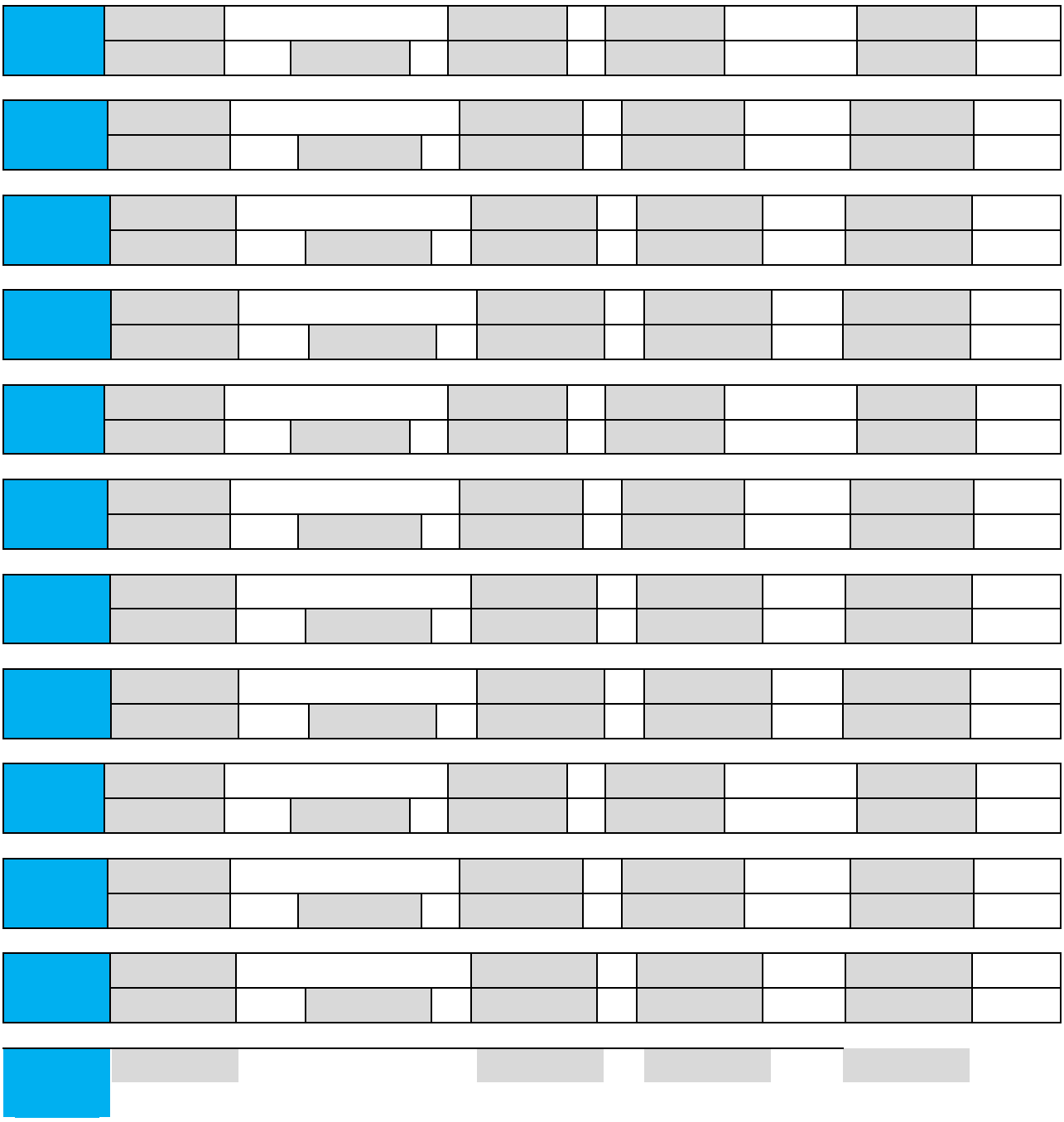

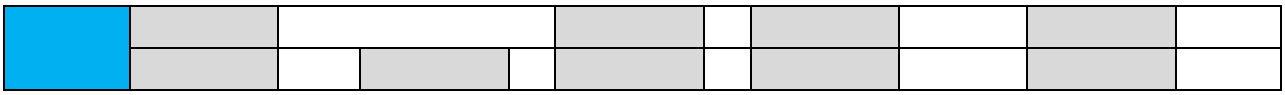

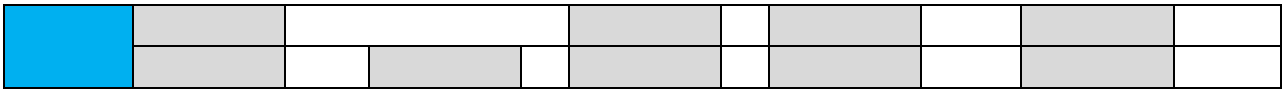

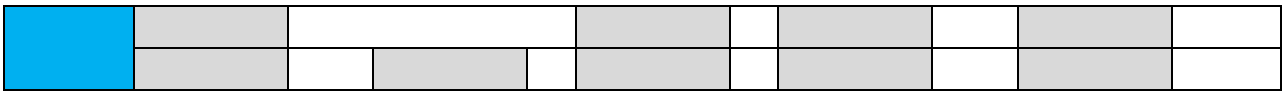

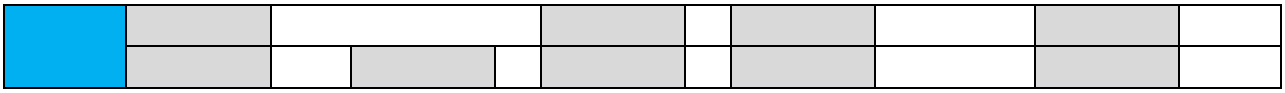

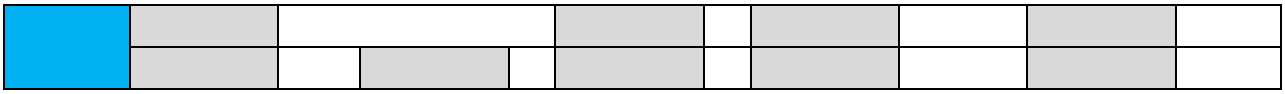

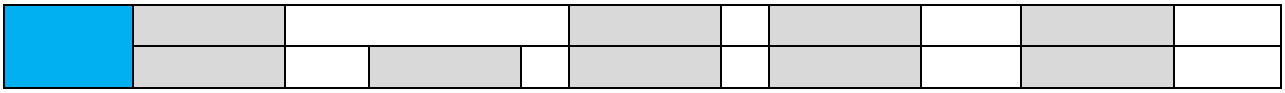

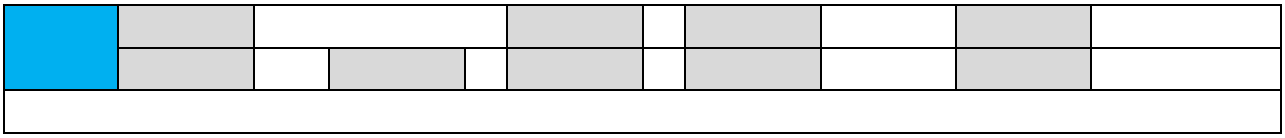

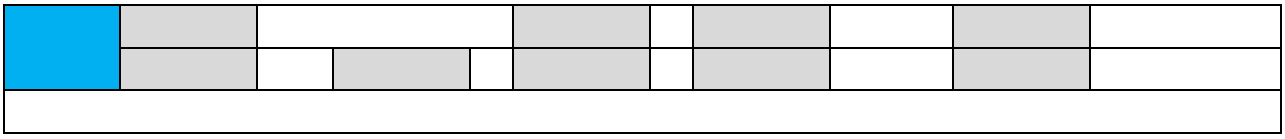

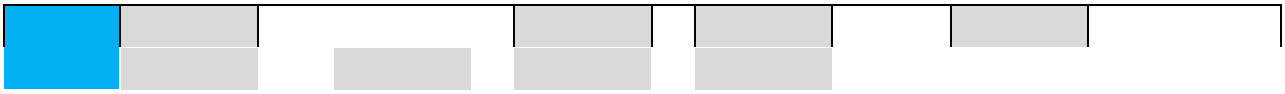

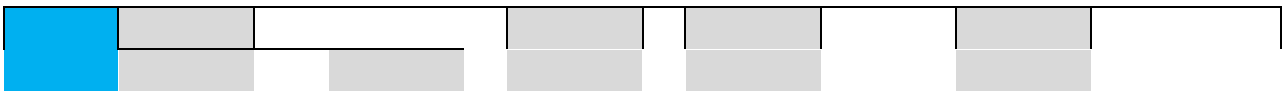

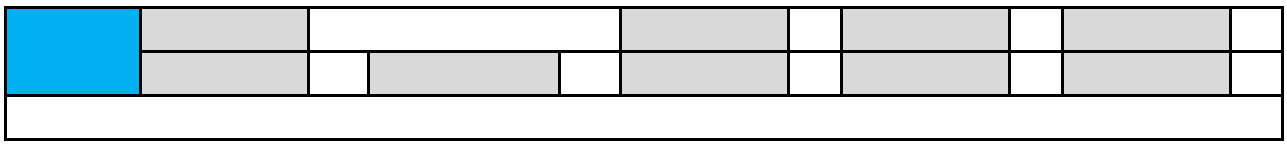

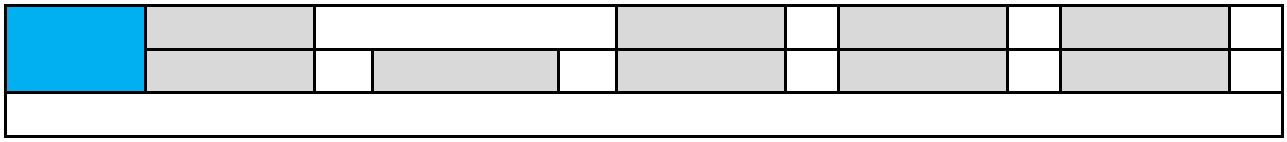

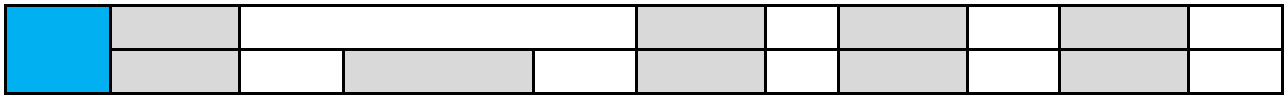

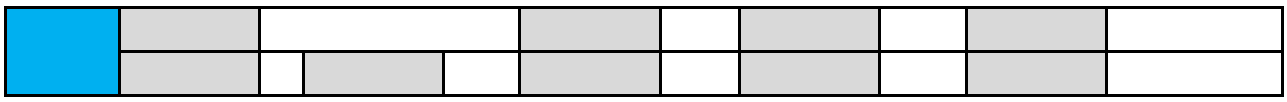

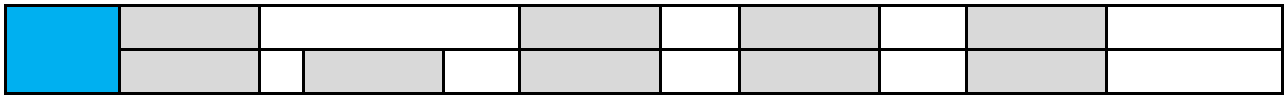

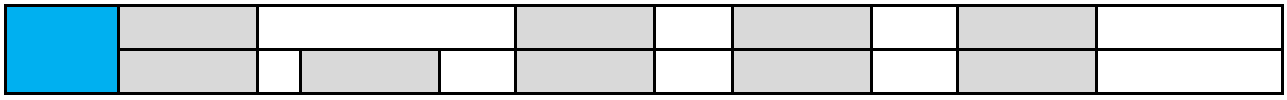

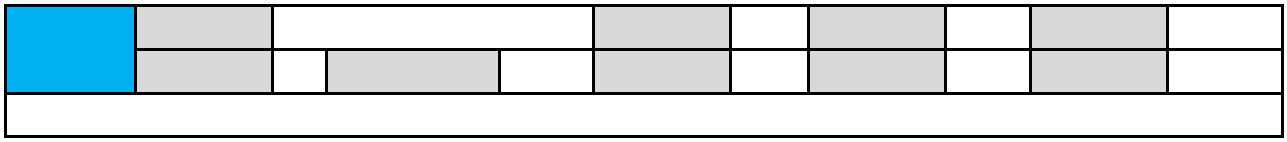

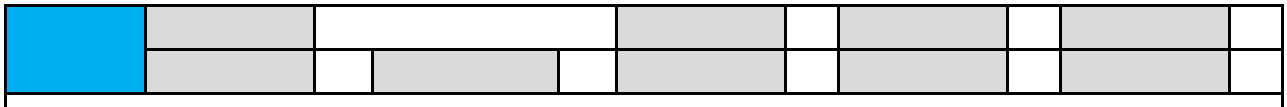

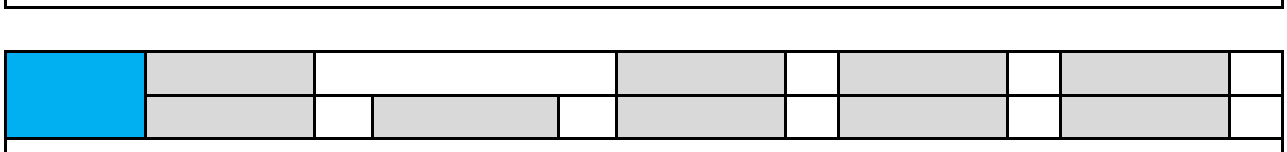

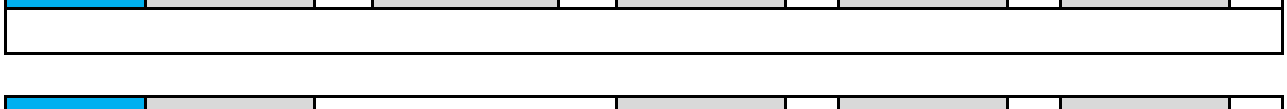

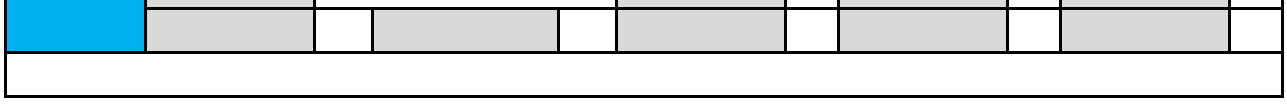

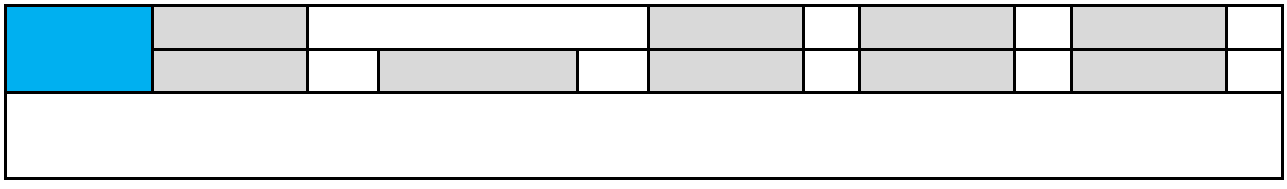

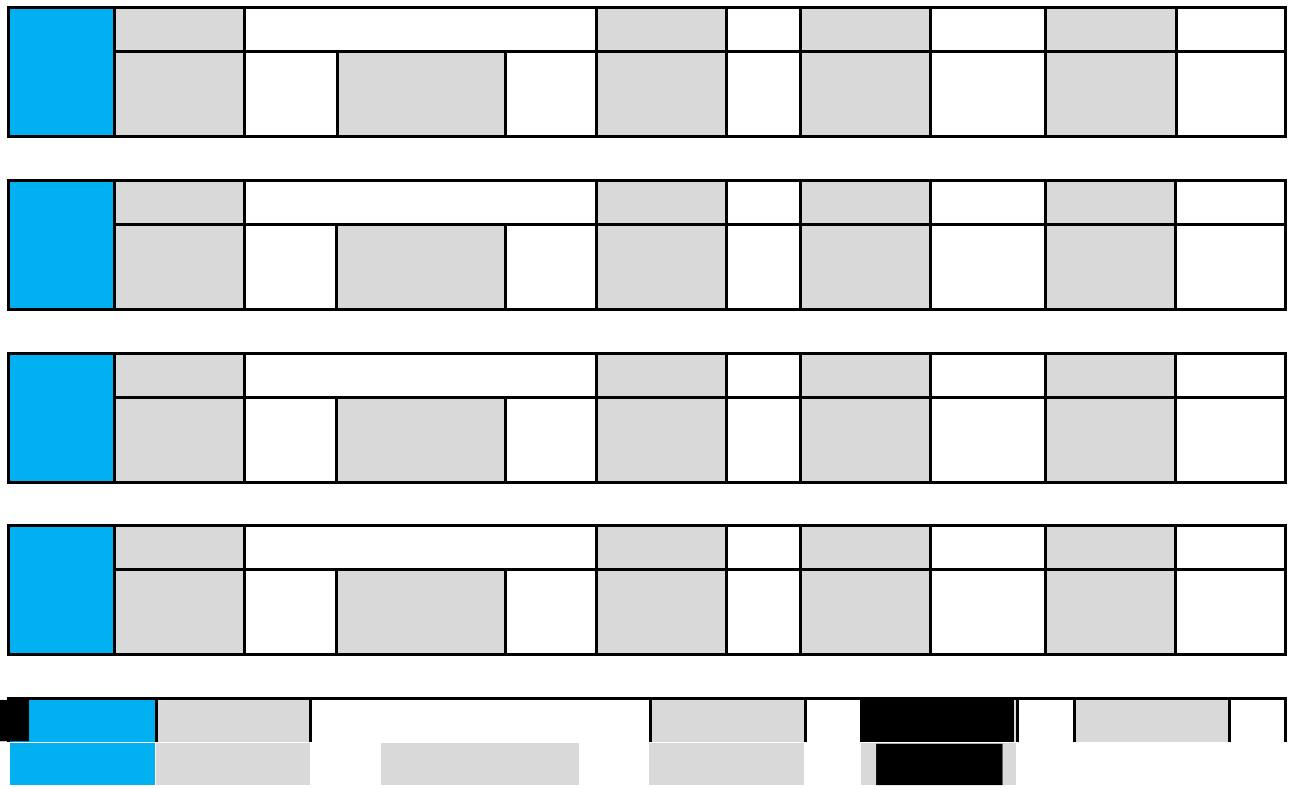

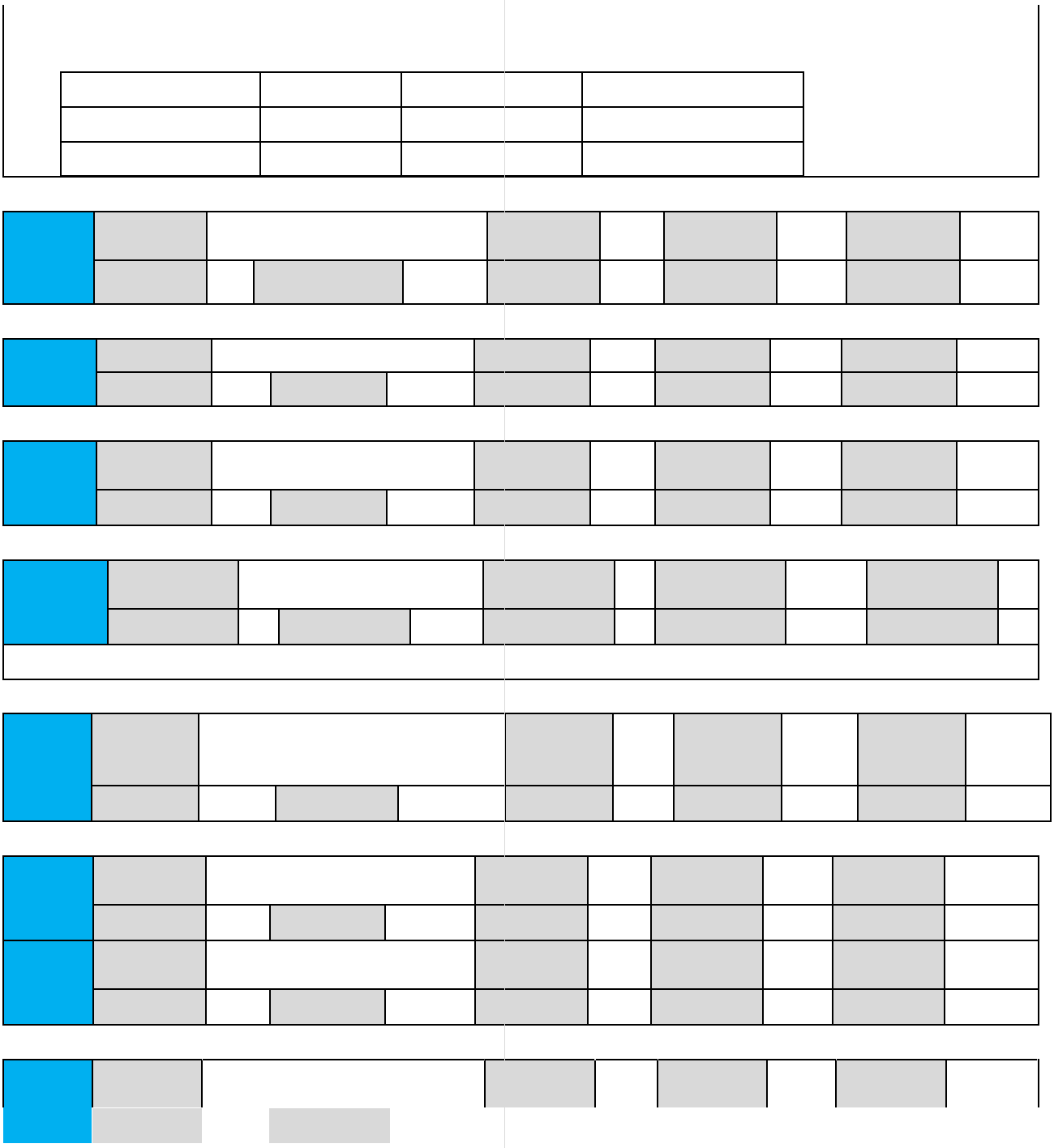

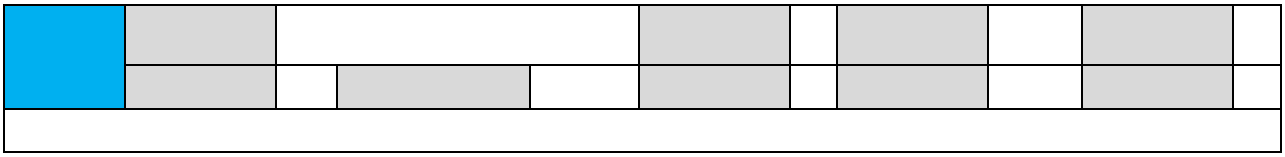

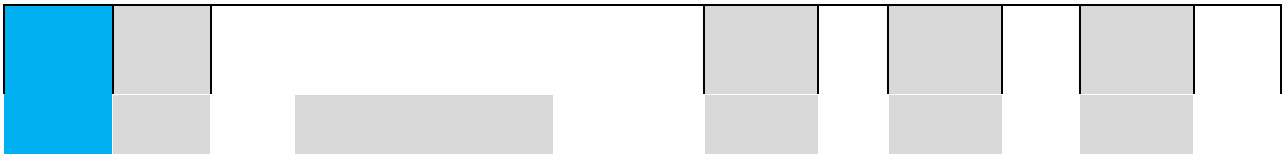

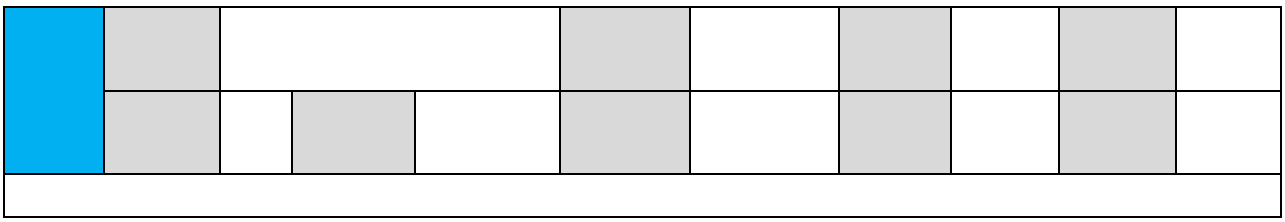

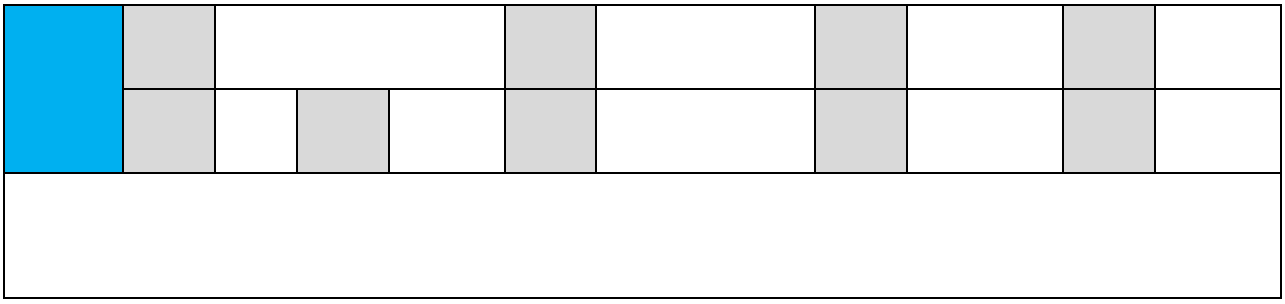

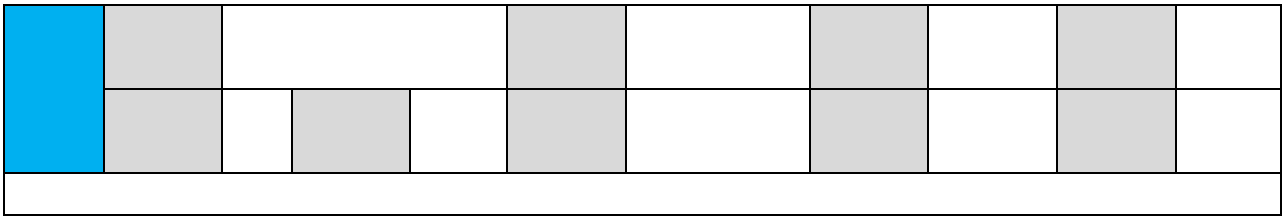

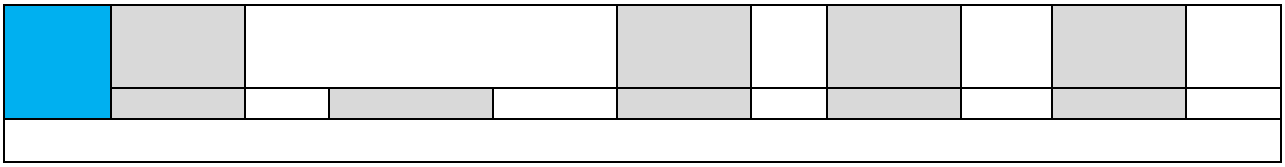

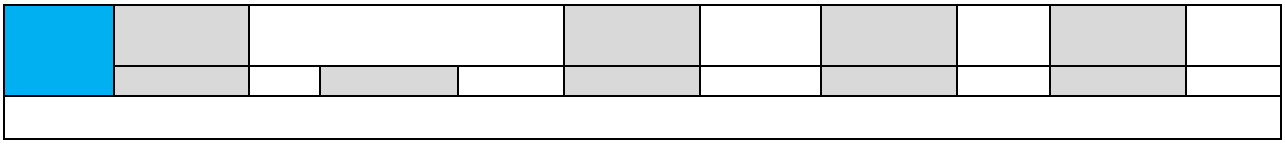

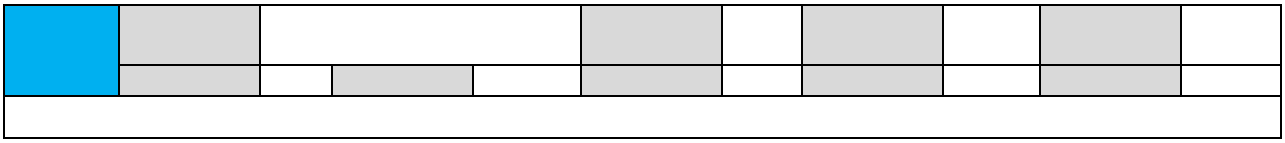

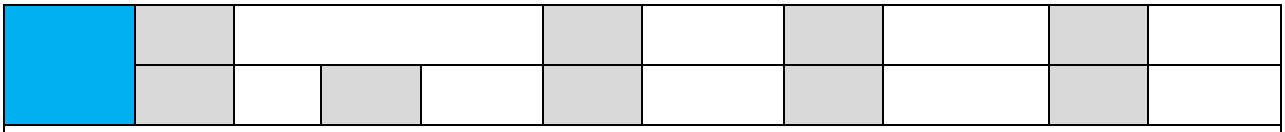

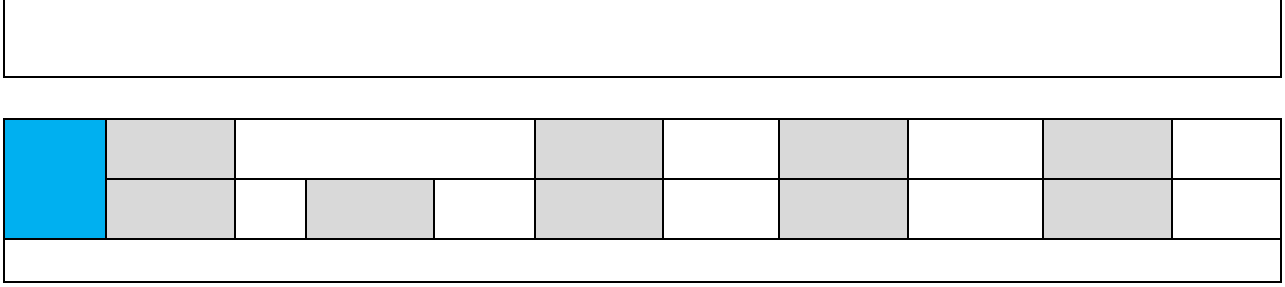

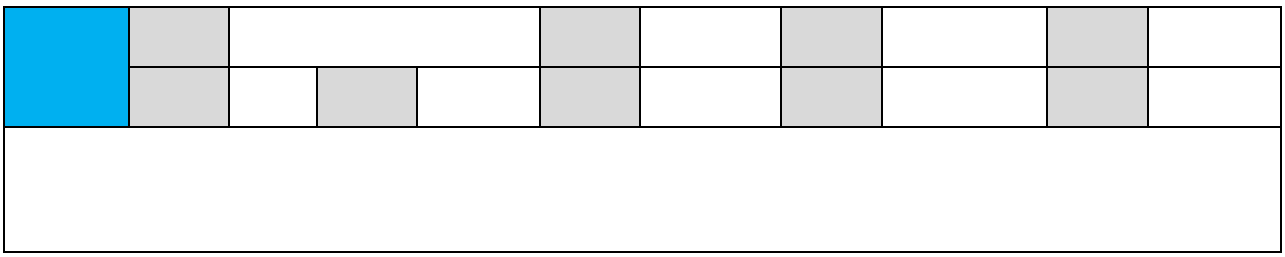

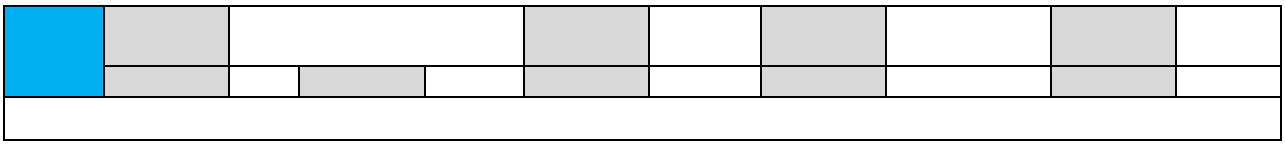

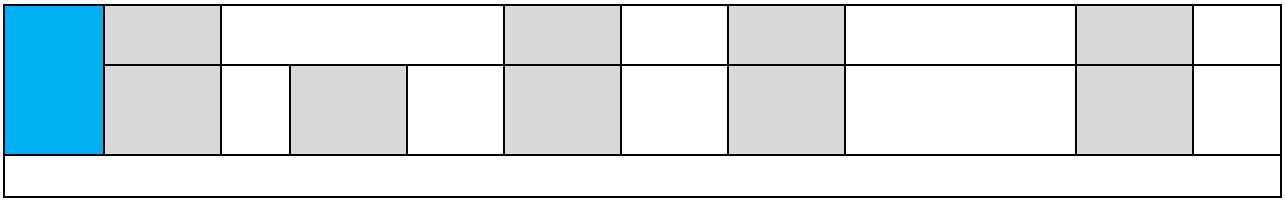

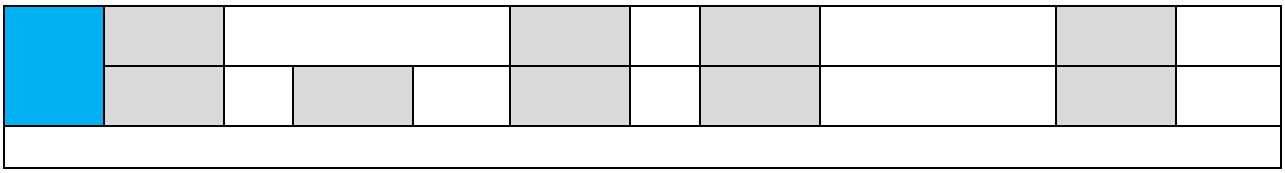

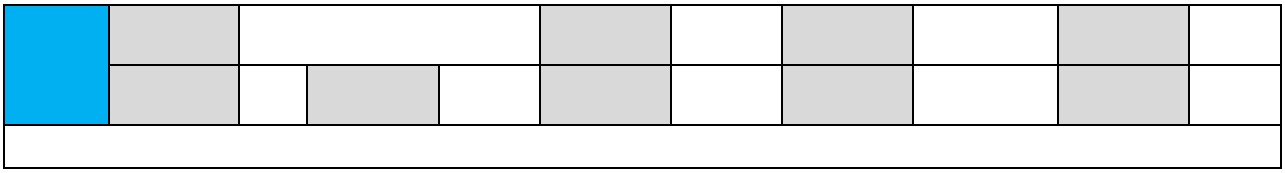

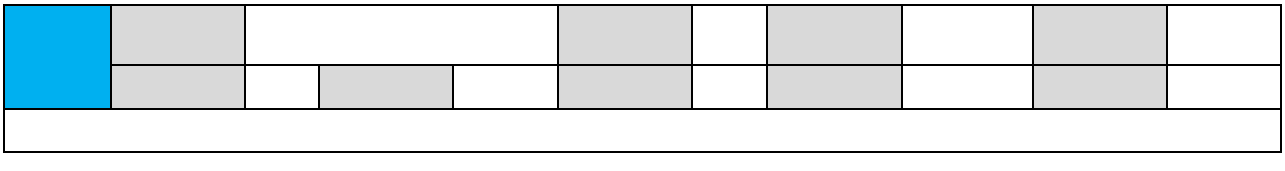

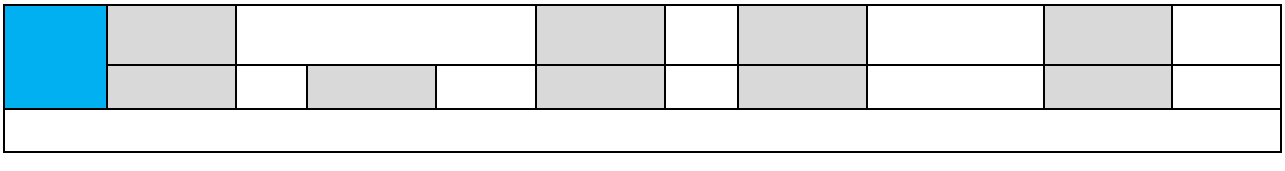

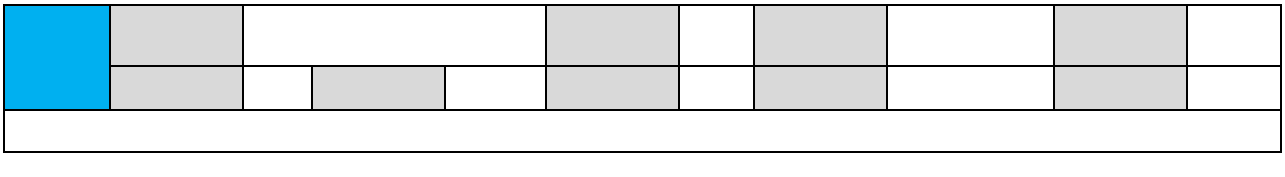

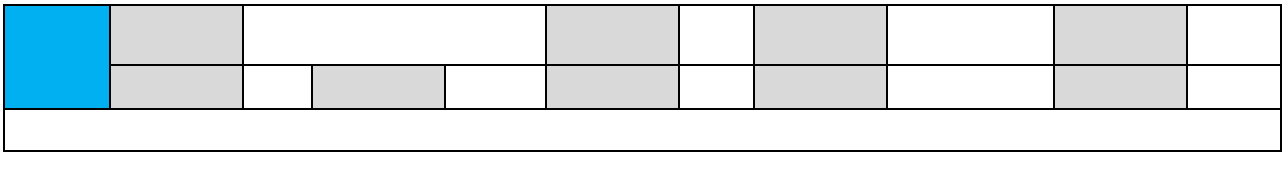

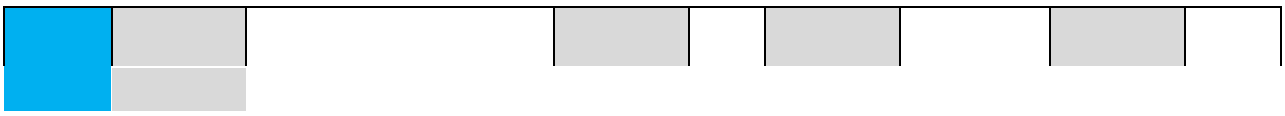

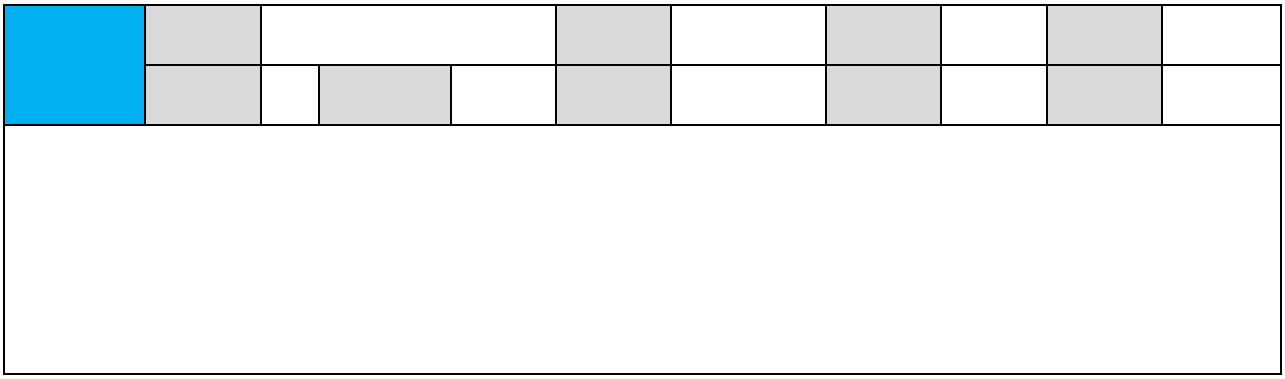

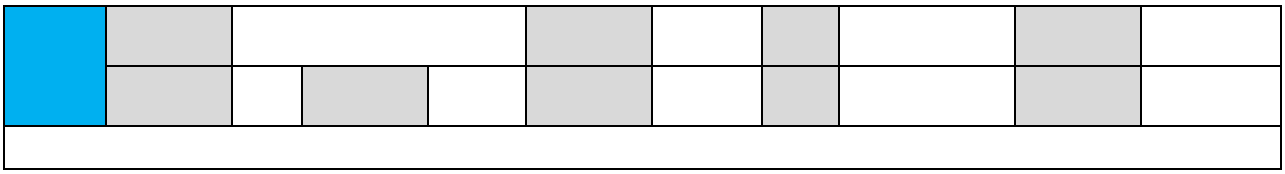

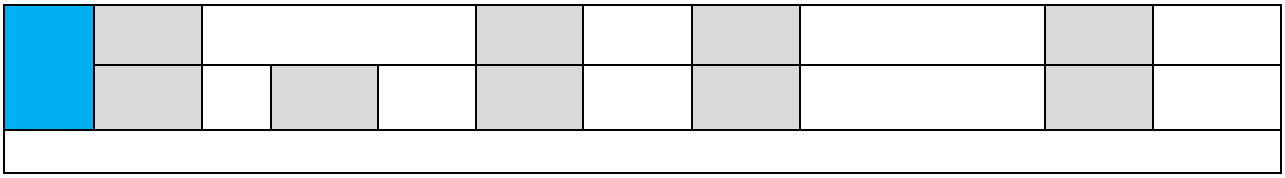

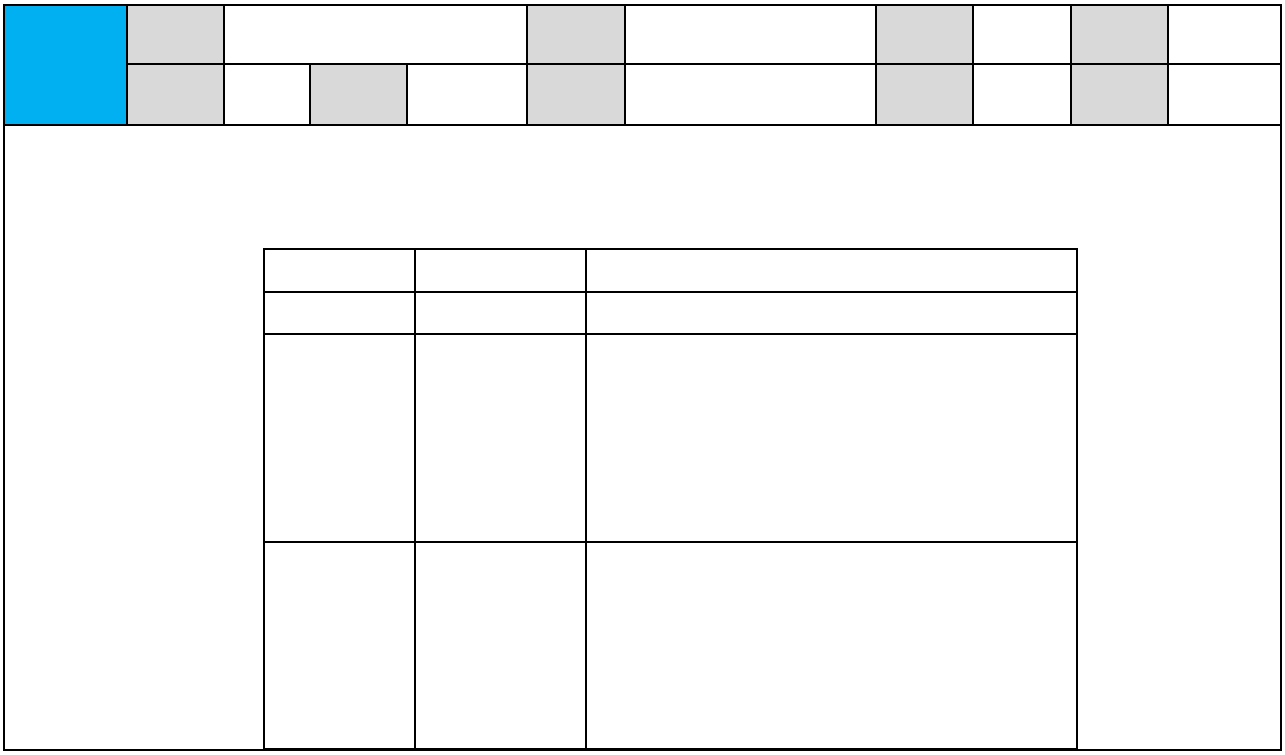

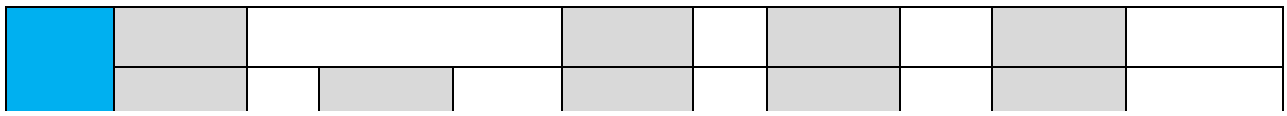

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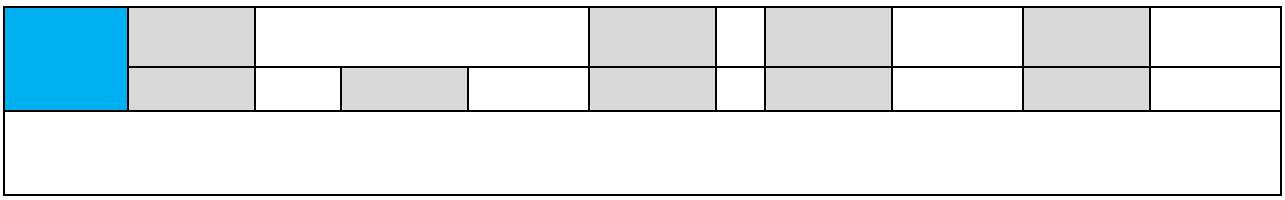
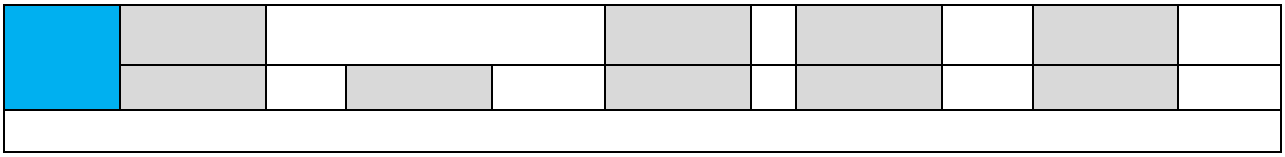
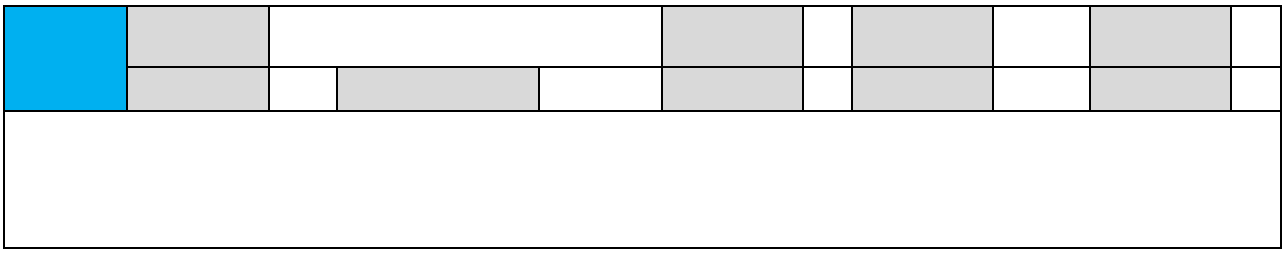
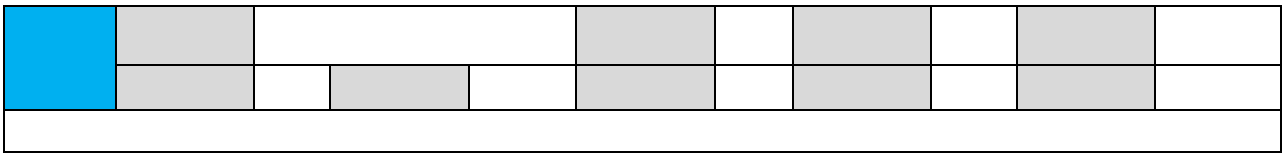
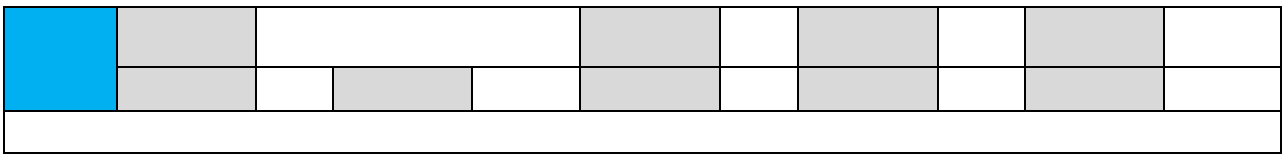
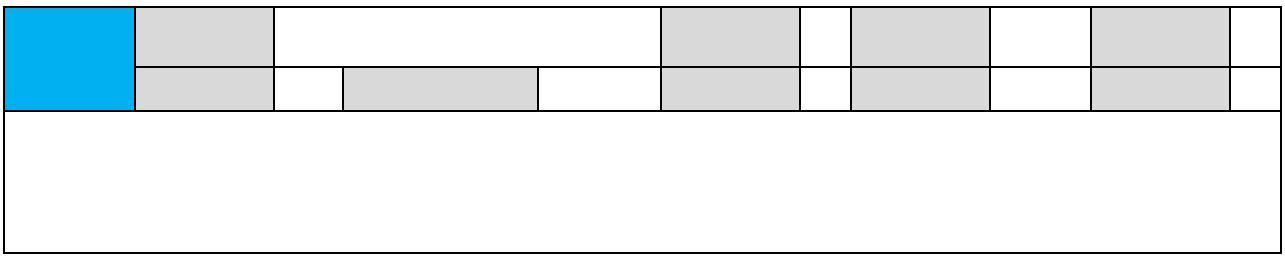






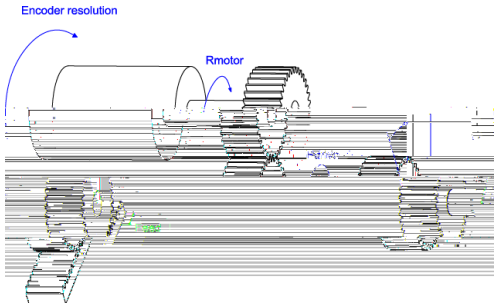






$$\text{Gear ratio} = \frac{\text{Motor Shaft revolutions}}{\text{Driving Shaft revolutions}}$$

$$\text{Feed constant} = \frac{\text{Feed}}{\text{Driving Shaft revolutions}}$$

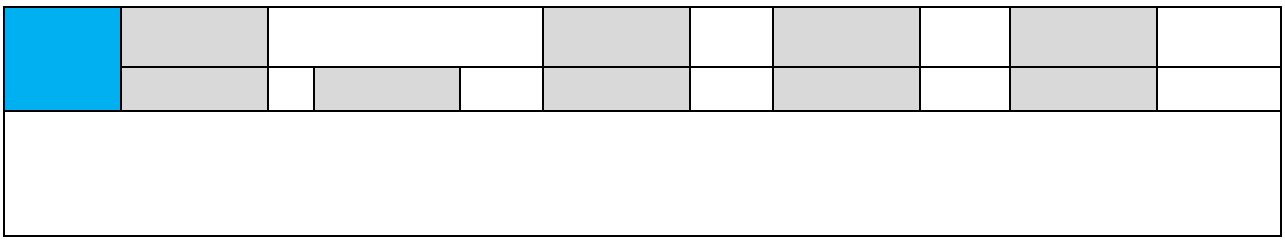


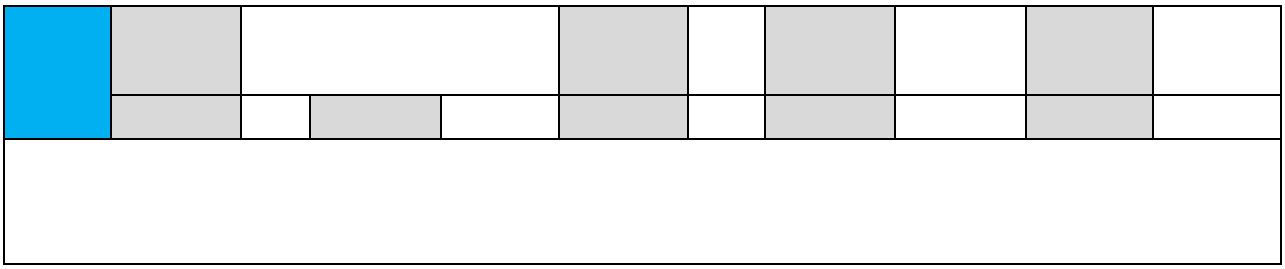
$$\text{Position encoder resolution} = \frac{\text{Encoder increments}}{\text{Motor revolutions}} = \frac{131072}{1} = 131072$$

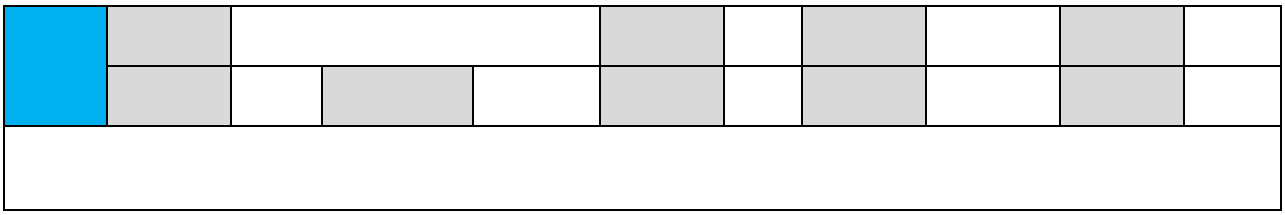
$$\text{Velocity encoder resolution} = \frac{\text{Encoder increments per second}}{\text{Motor revolutions per second}} = \frac{131072}{1} = 131072$$

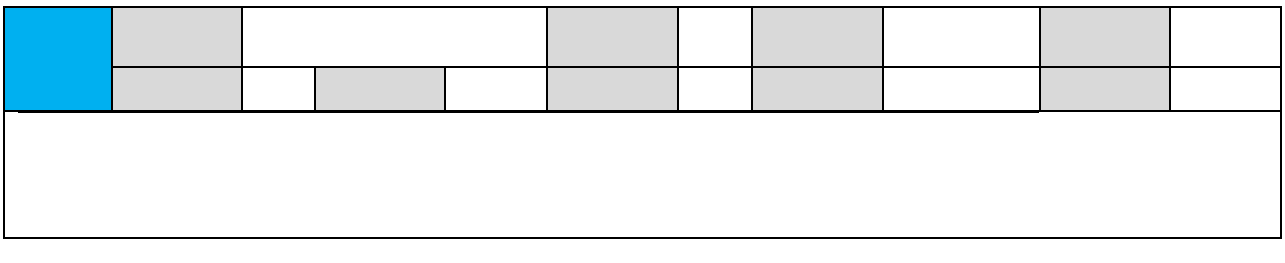
$$\text{Gear ratio} = \frac{\text{Motor Shaft revolutions}}{\text{Driving Shaft revolutions}} = \frac{5rpm}{1rpm} = 5$$

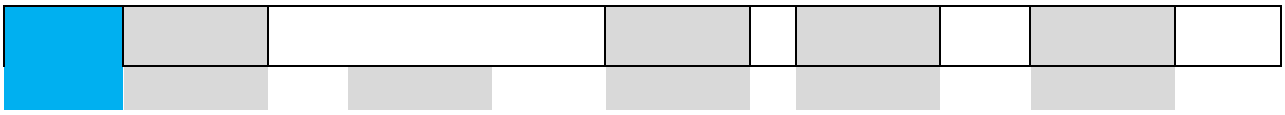
$$\text{Feed constant} = \frac{\text{Feed}}{\text{Driving Shaft revolutions}} = \frac{1000}{1} = 1000$$

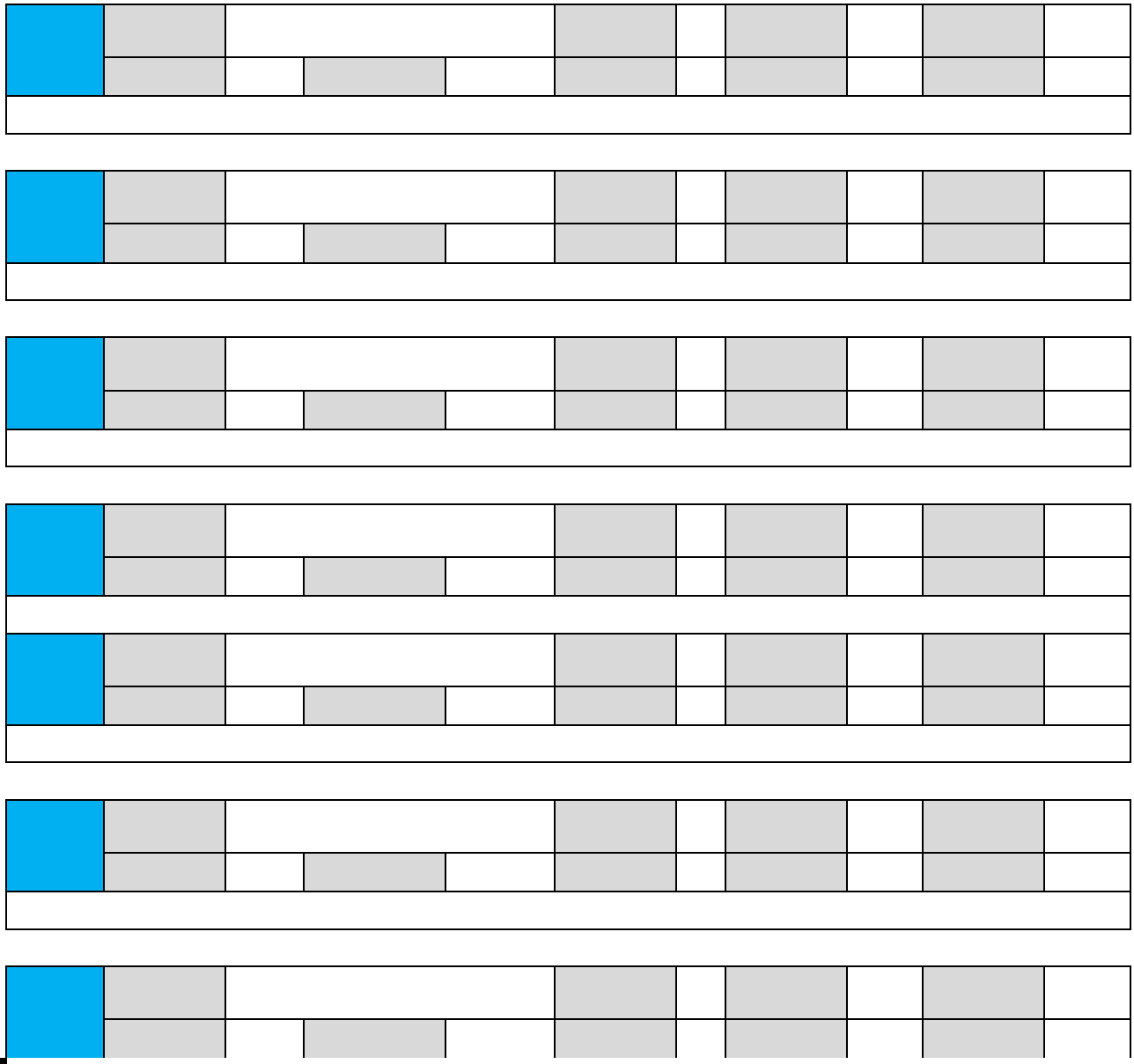


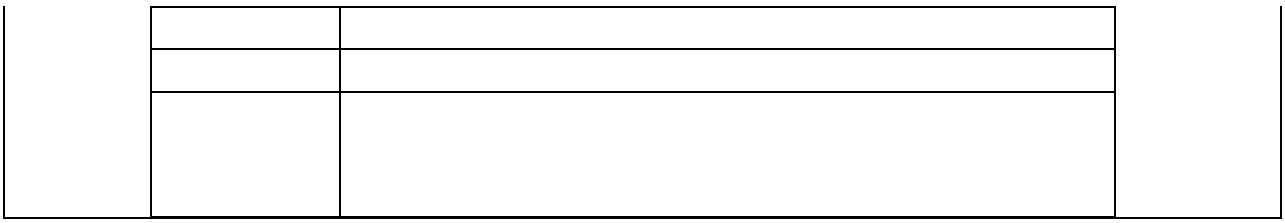


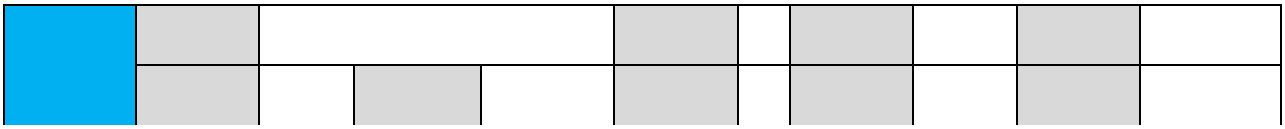


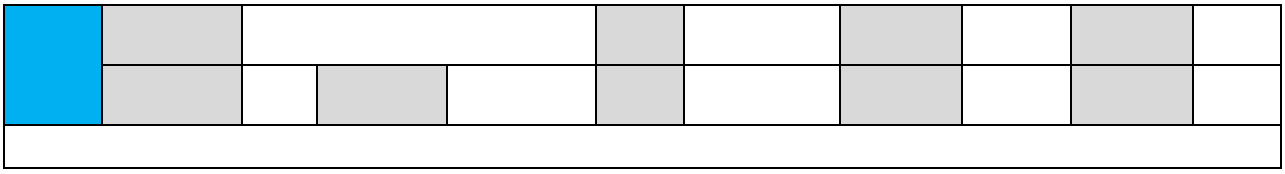


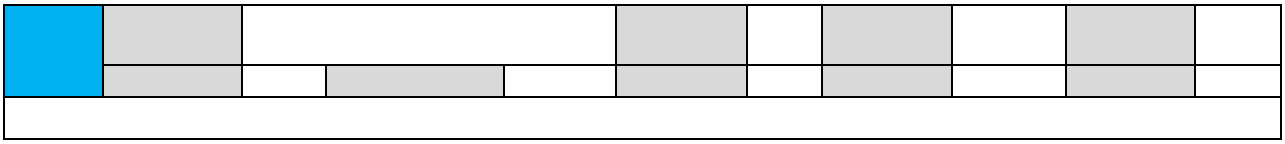


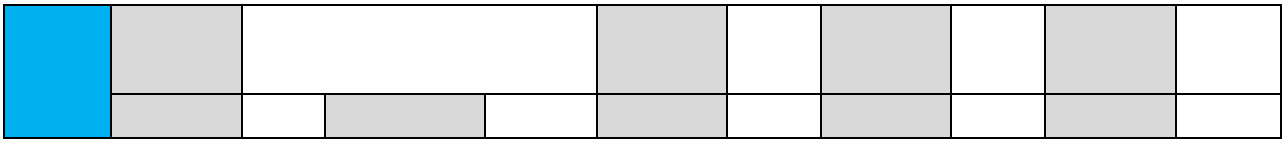


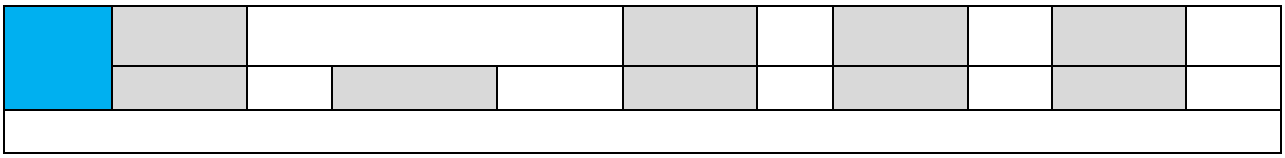


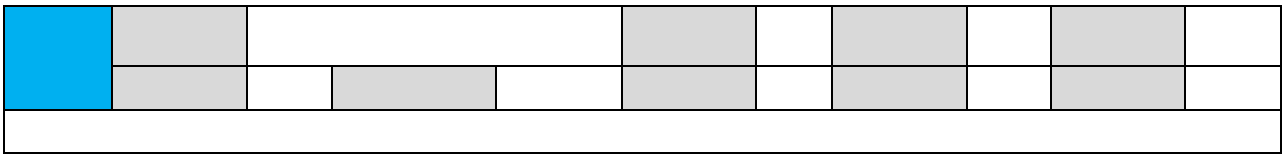


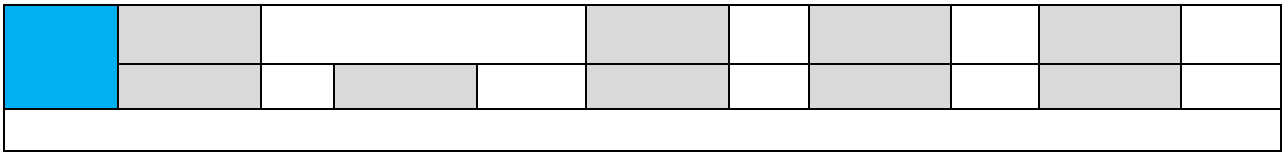


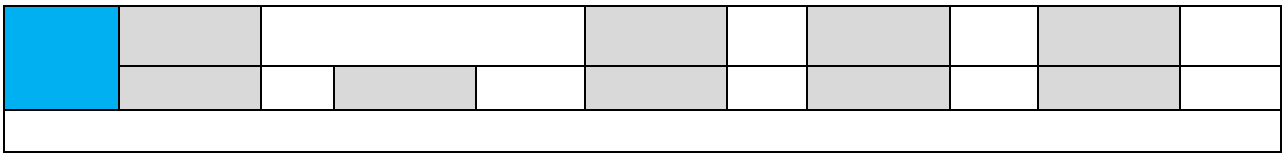


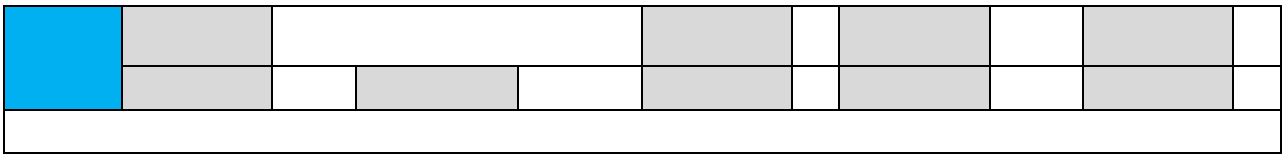


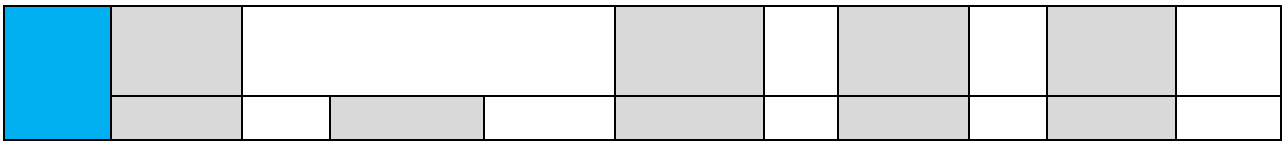


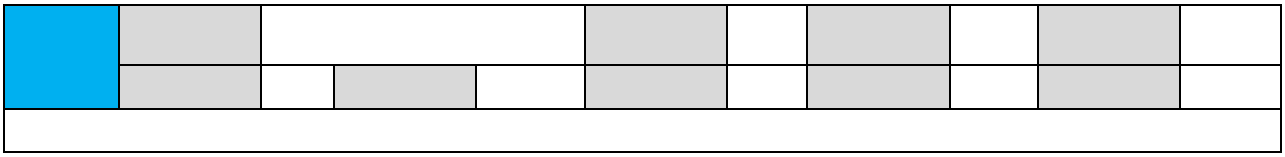


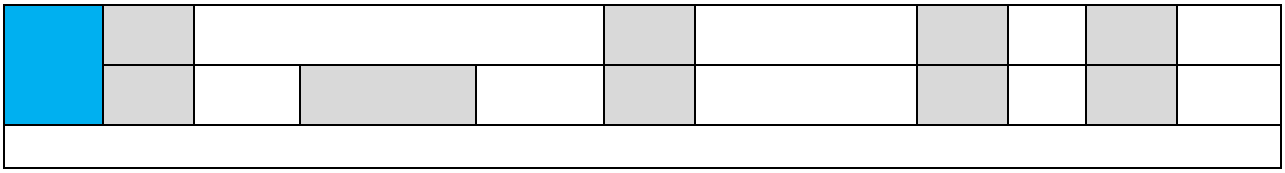


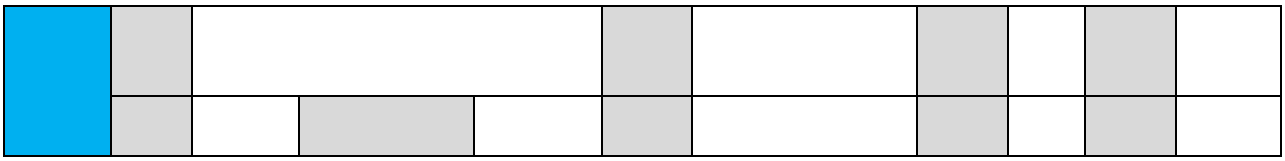


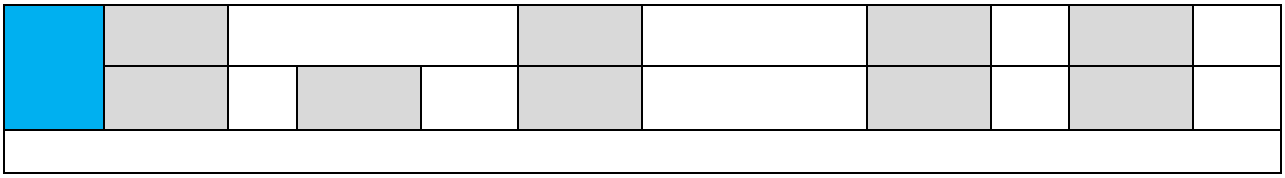


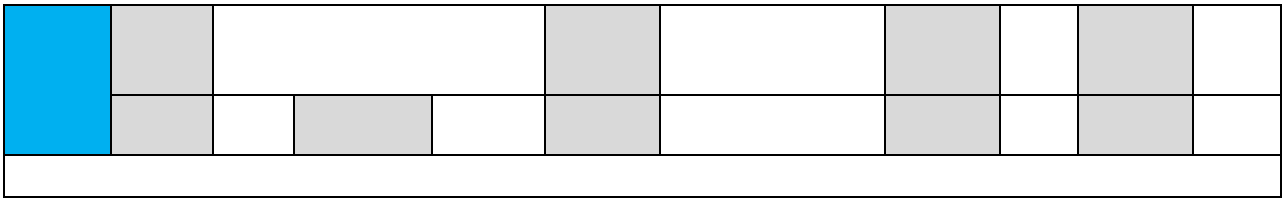


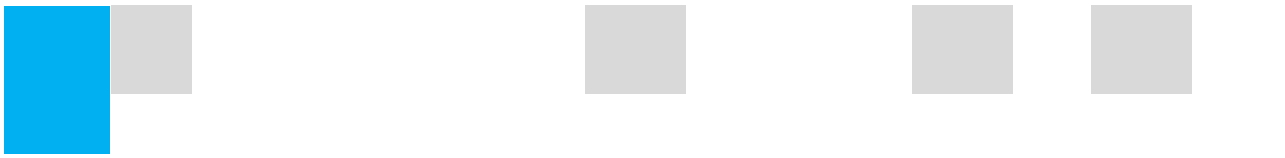


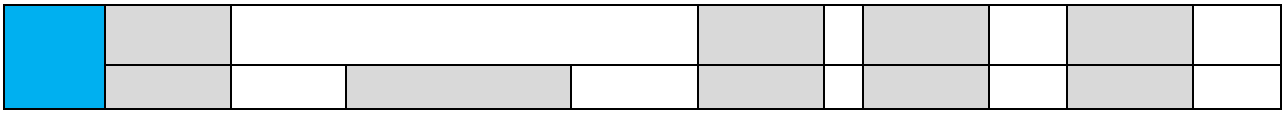


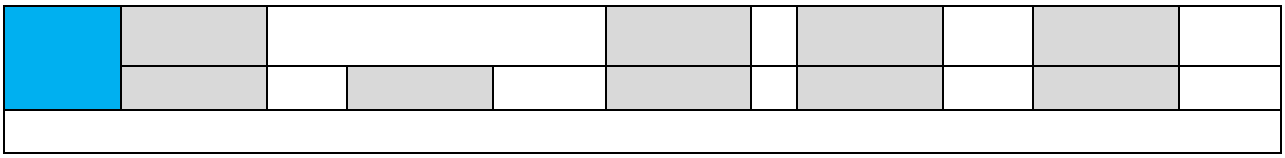


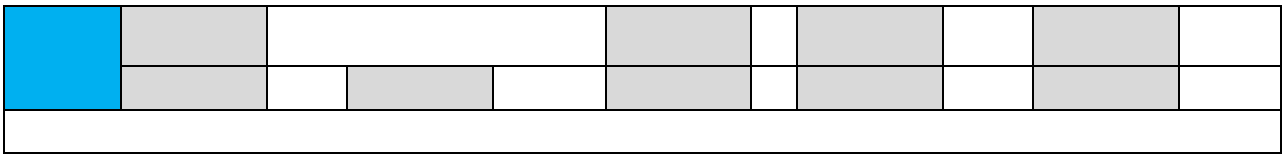


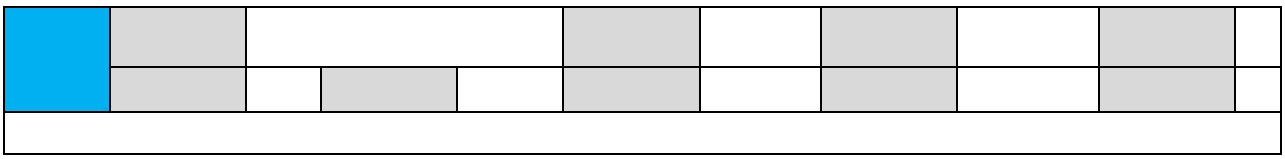


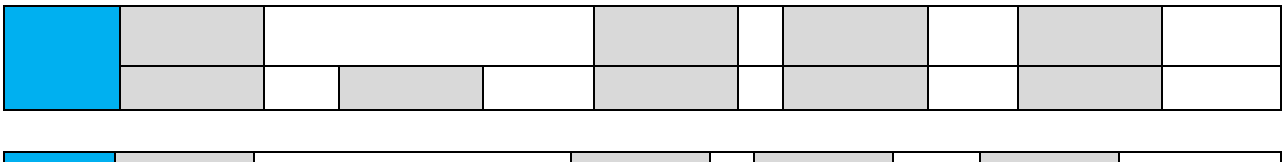


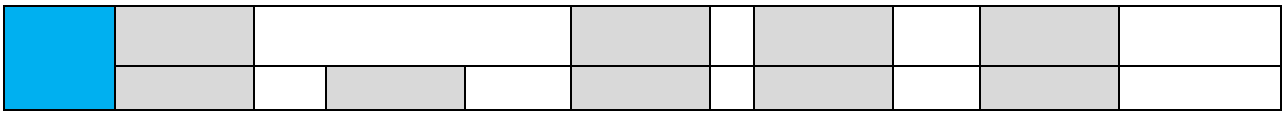


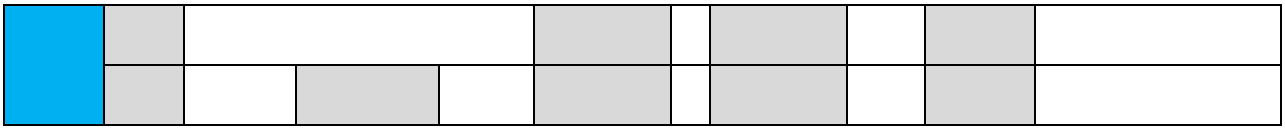


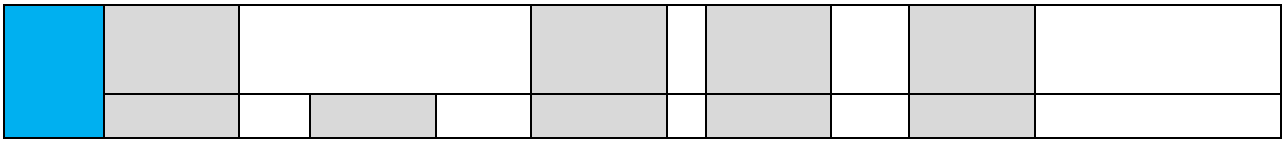


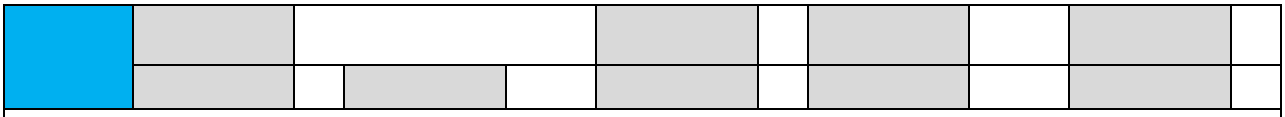


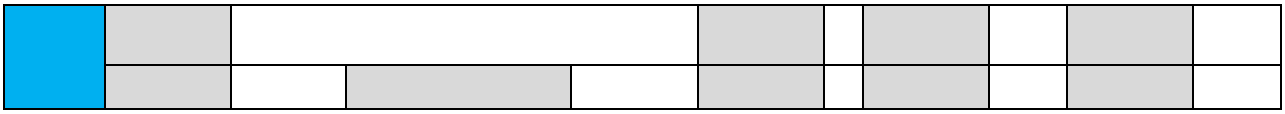


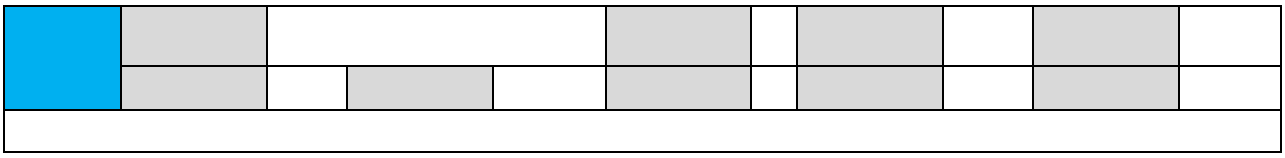


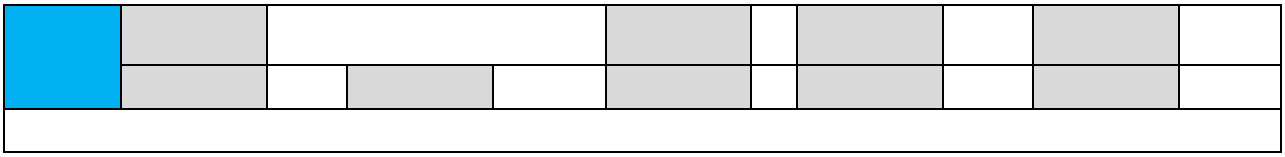


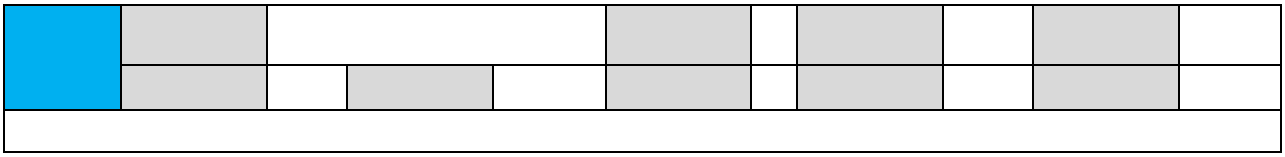


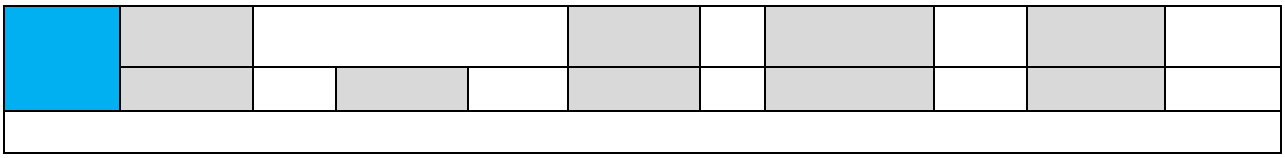


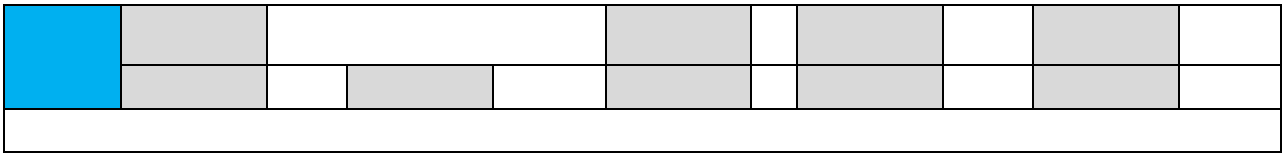


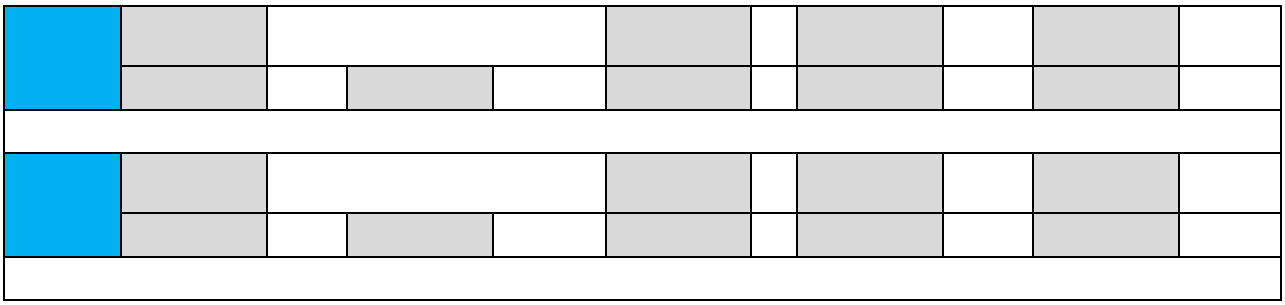


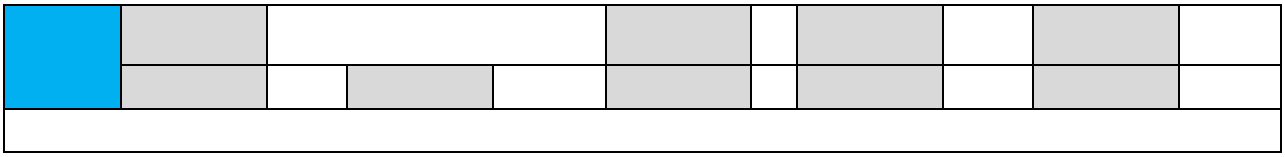


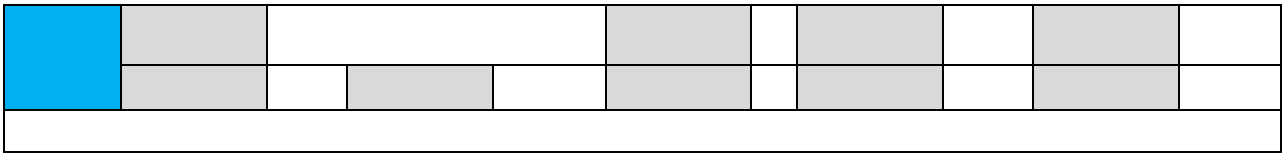


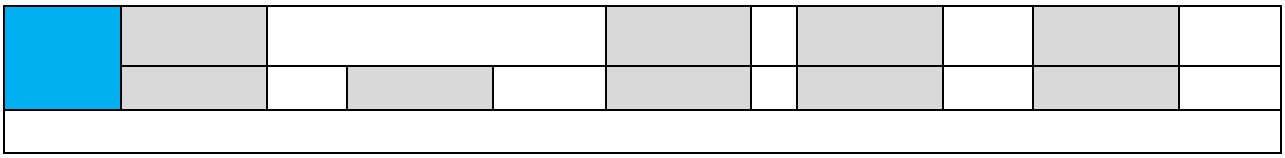


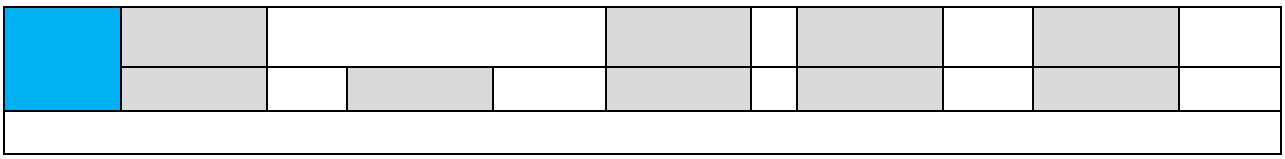


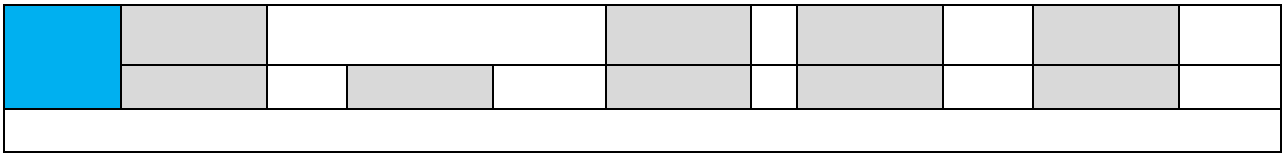


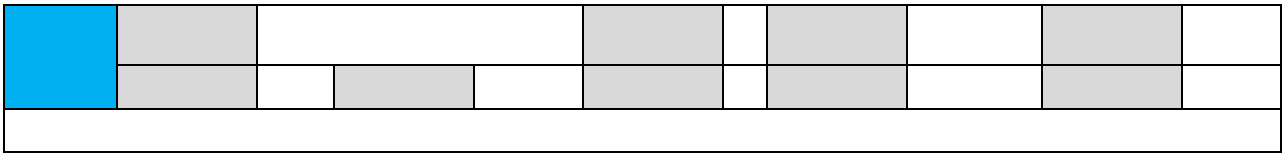


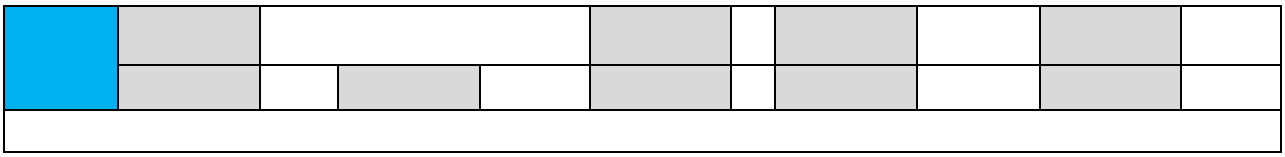


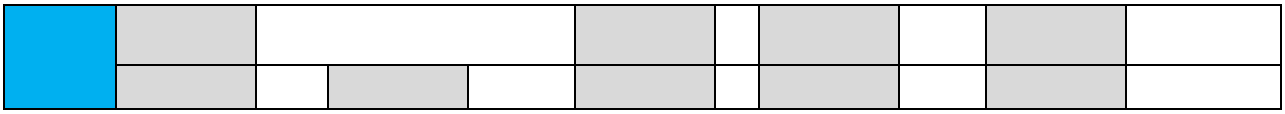


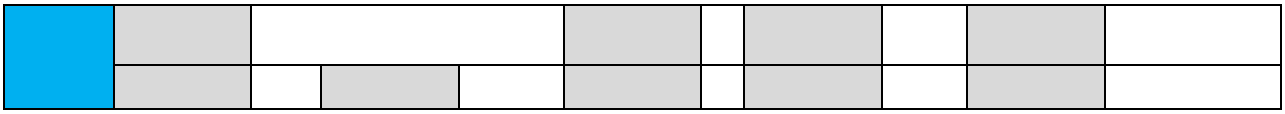




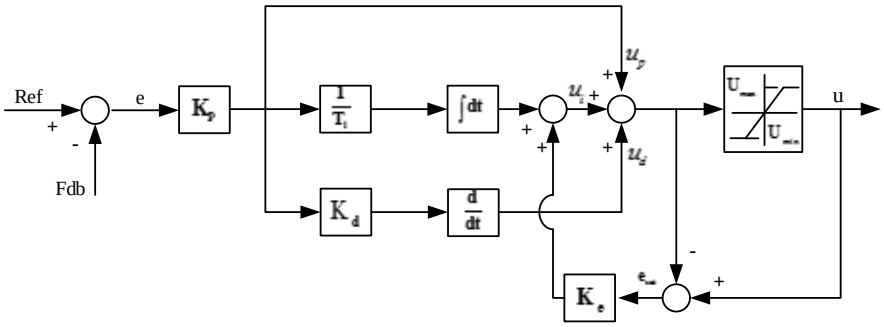


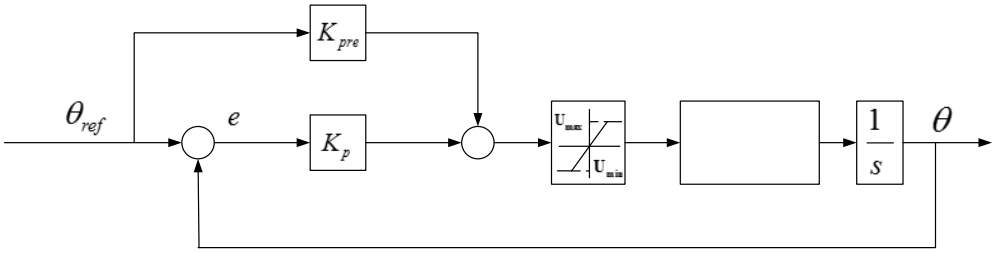


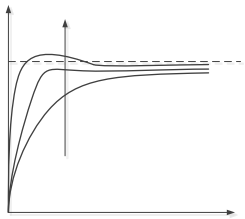
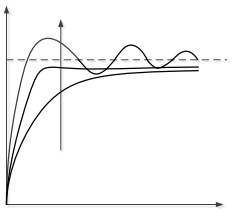
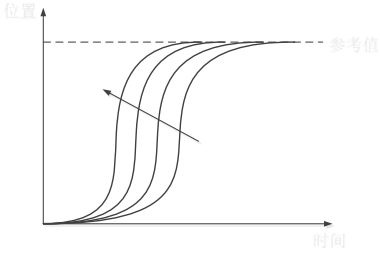


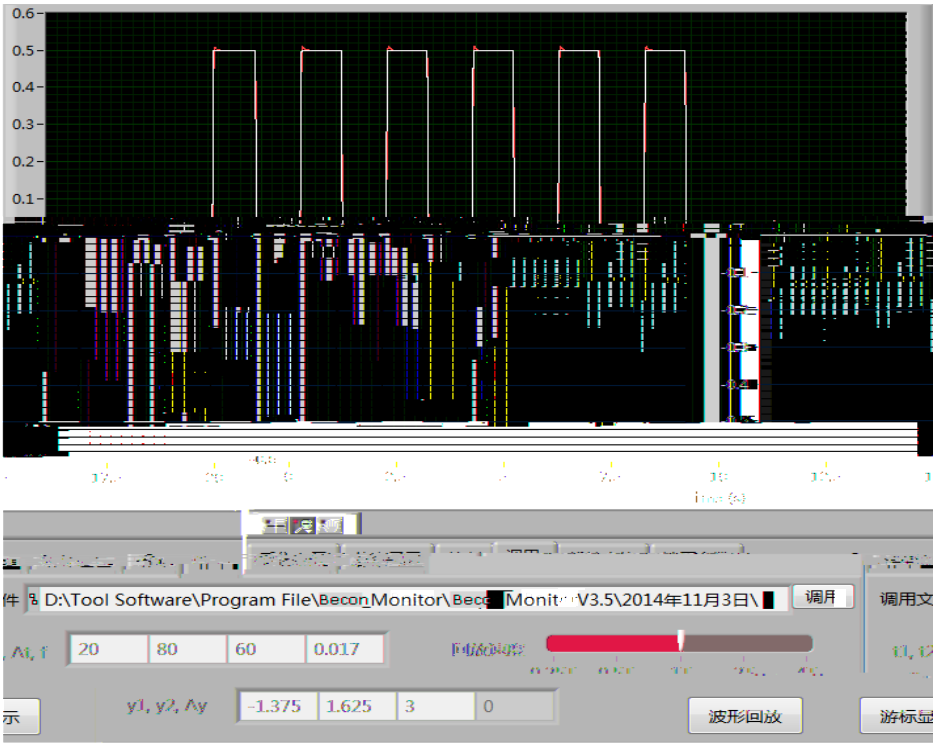


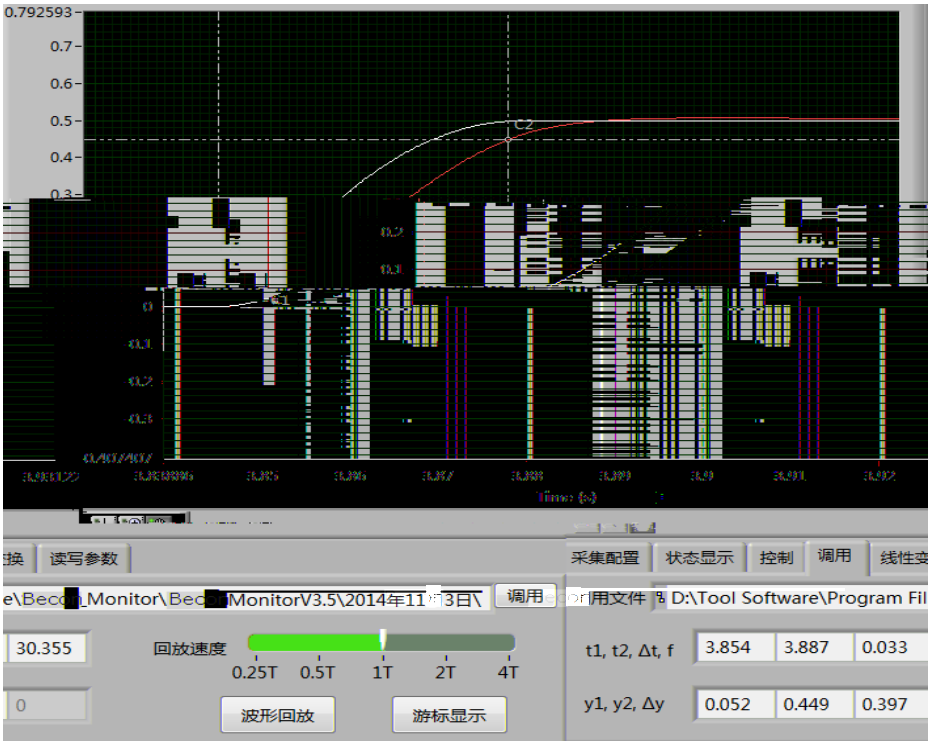
9

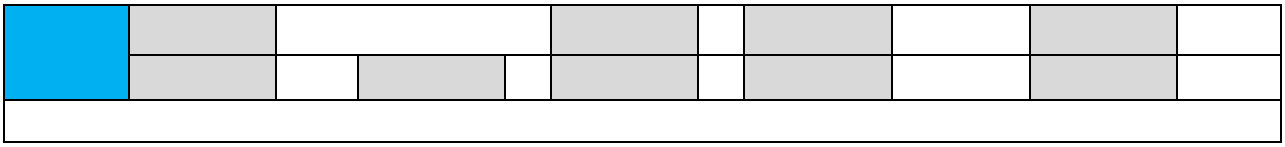

Ref
e
+
-
Fdb
K_p
$\frac{1}{T_i}$
$\int dt$
K_d
$\frac{d}{dt}$
u_p
u_i
u_d
U_{max}
U_{min}
u
K_e
e_{sat}

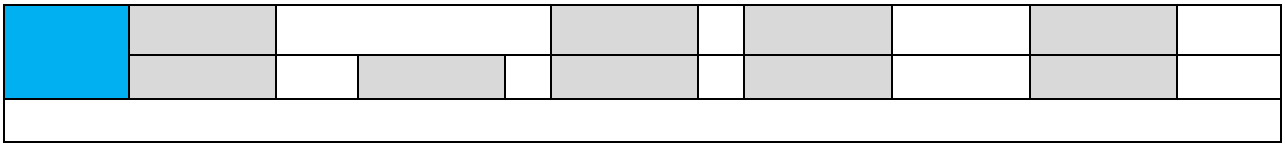

θ_{ref}
e
K_{pre}
K_p
U_{max}
U_{min}
$\frac{1}{s}$
θ

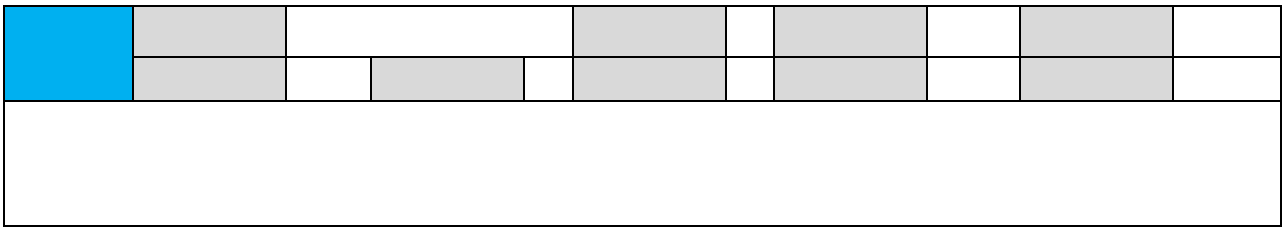
	
	
	 位置 参考值 时间

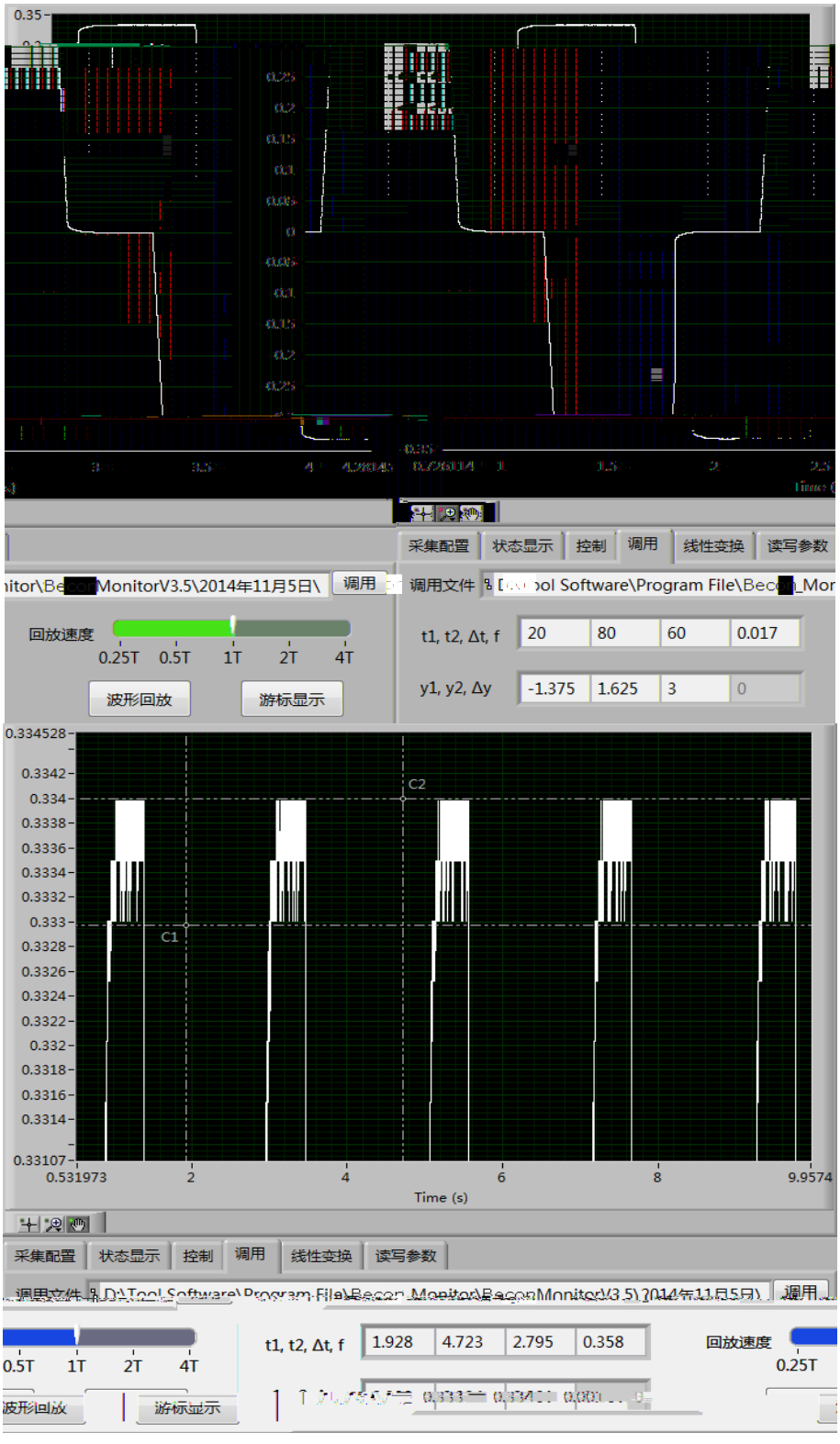

0.6
0.5
0.4
0.3
0.2
0.1
D:\Tool Software\Program File\Becon Monitor\Bec Monit V3.5\2014年11月3日\
调用
20
80
60
0.017
-1.375
1.625
3
0
波形回放

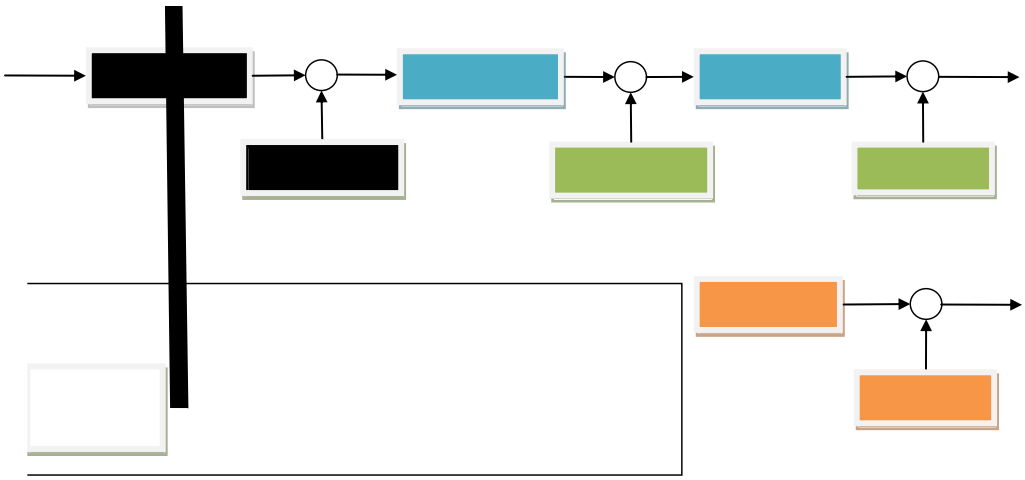

0.792593
0.7
0.6
0.5
0.4
0.3
C2
C1
读写参数
采集配置
状态显示
控制
调用
Monitor\Bec MonitorV3.5\2014年11 3日\
调用
用文件
D:\Tool Software\Program Fil
30.355
回放速度
0.25T
0.5T
1T
2T
4T
t1, t2, Δt, f
3.854
3.887
0.033
y1, y2, Δy
0.052
0.449
0.397
0
波形回放
游标显示

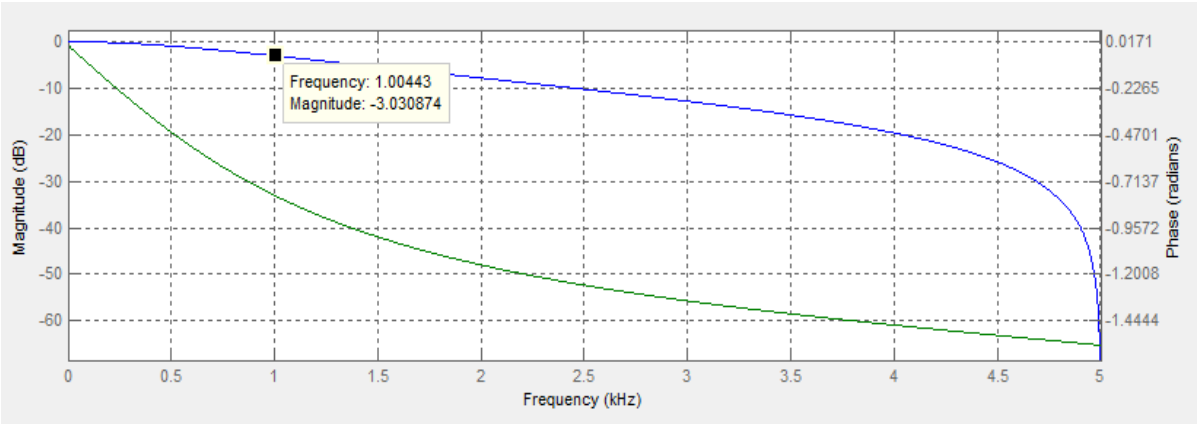


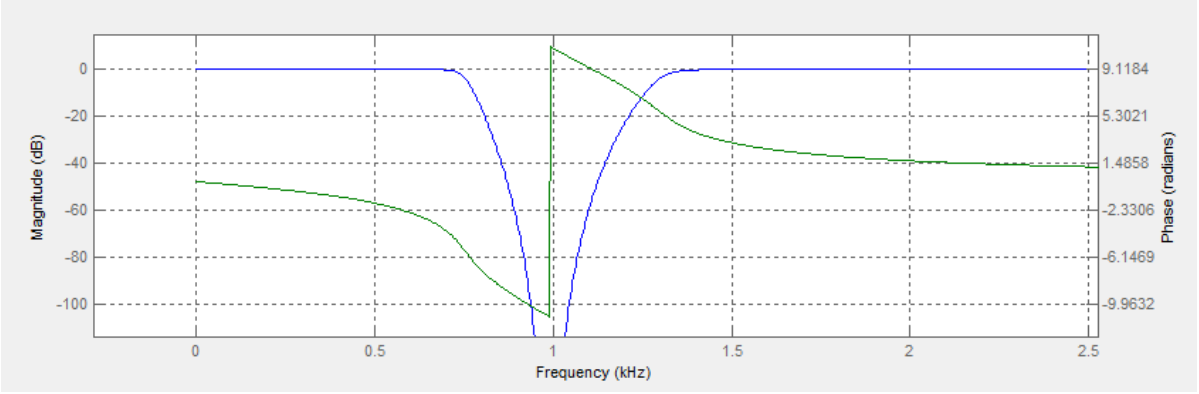


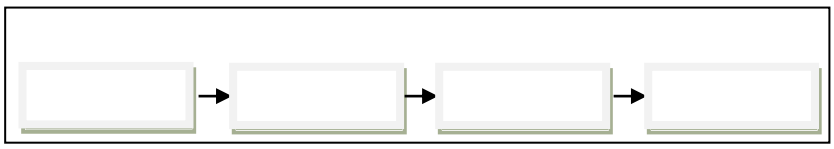


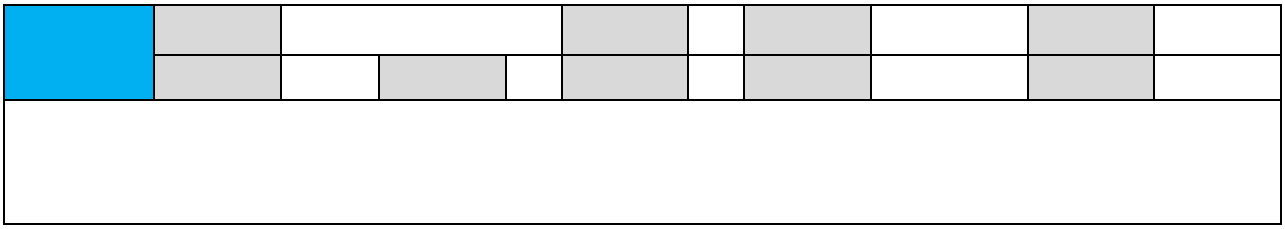

采集配置
状态显示
控制
调用
线性变换
读写参数
调用
调用文件
回放速度
0.25T
0.5T
1T
2T
4T
波形回放
游标显示
t1, t2, Δt, f
20
80
60
0.017
y1, y2, Δy
-1.375
1.625
3
C1
C2
Time (s)
0.531973
9.9574
t1, t2, Δt, f
1.928
4.723
2.795
0.358
回放速度
0.25T

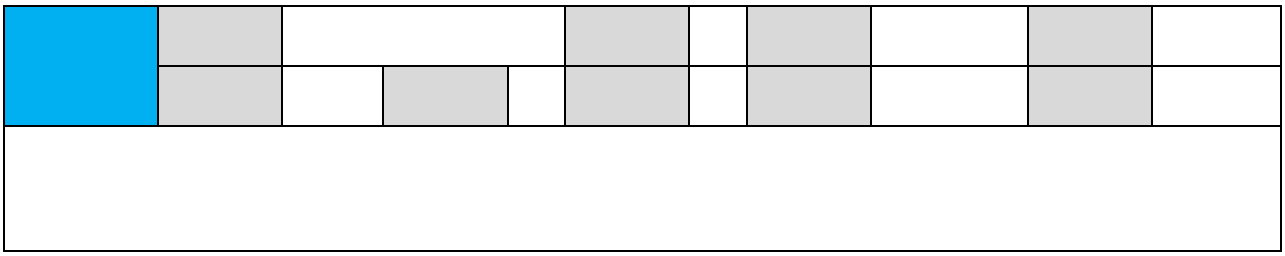


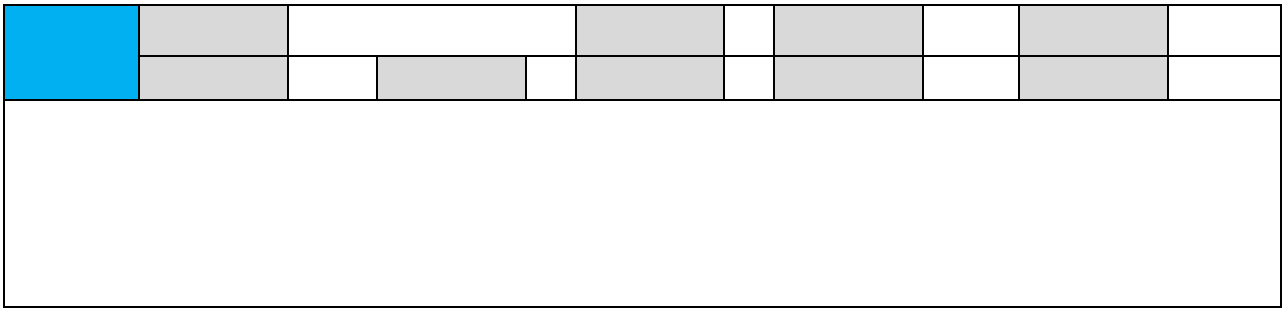

Frequency: 1.00443
Magnitude: -3.030874
Magnitude (dB)
Phase (radians)
Frequency (kHz)
0
-10
-20
-30
-40
-50
-60
0.0171
-0.2265
-0.4701
-0.7137
-0.9572
-1.2008
-1.4444
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

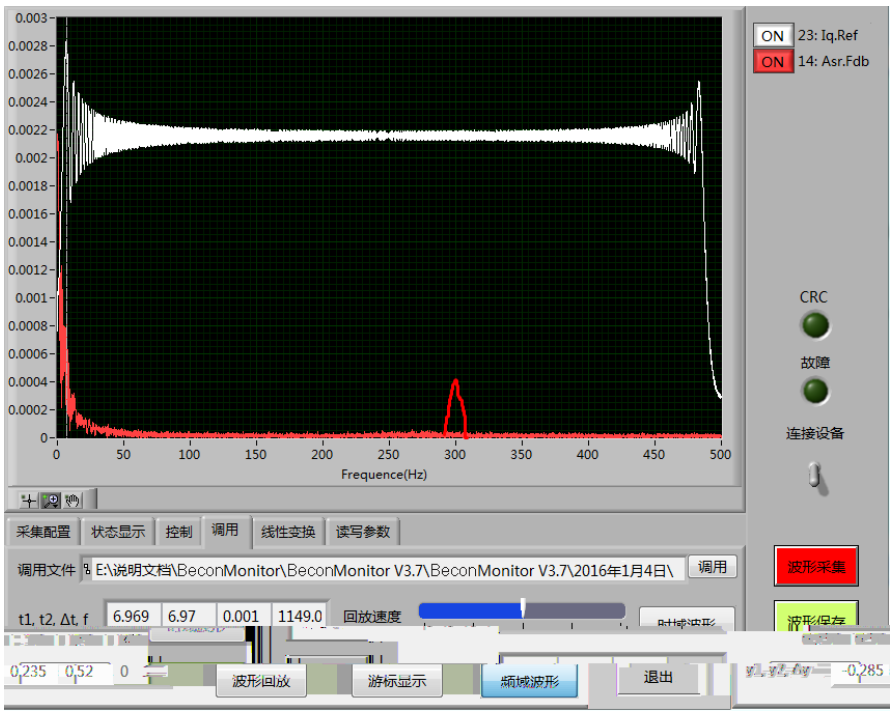

Magnitude (dB)
Phase (radians)
Frequency (kHz)
0
-20
-40
-60
-80
-100
9.1184
5.3021
1.4858
-2.3306
-6.1469
-9.9632
0.5
1
1.5
2
2.5

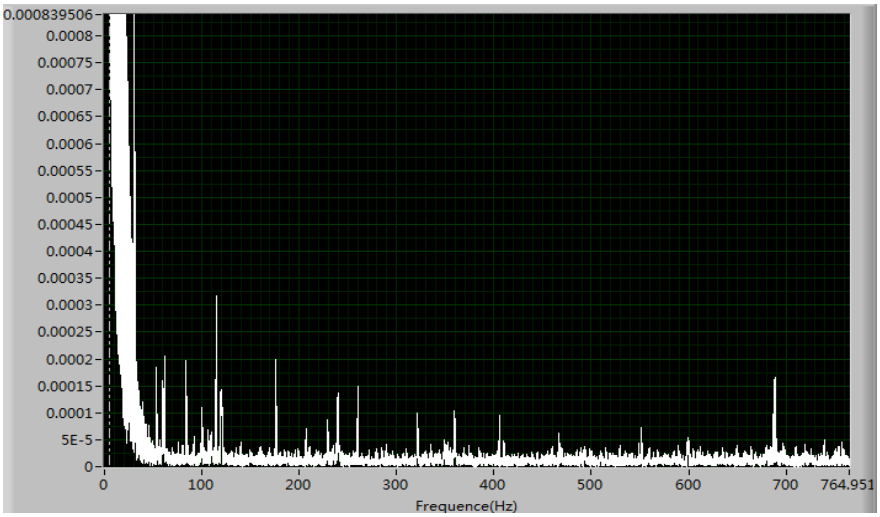


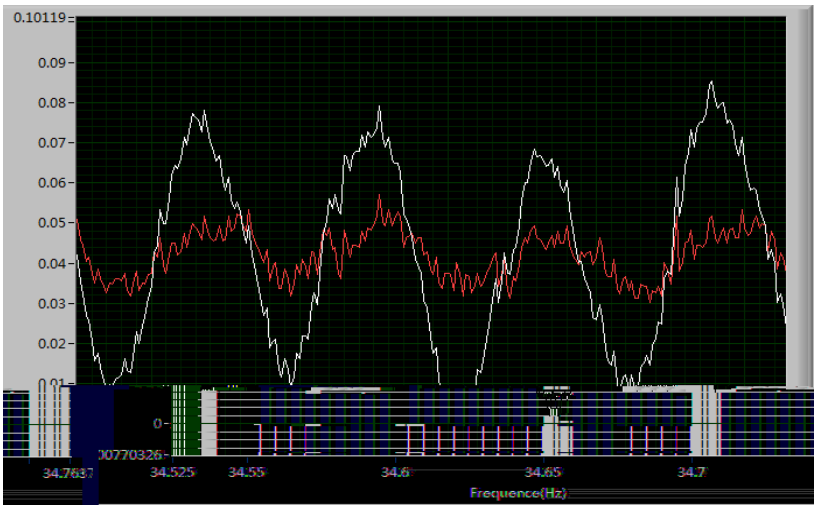




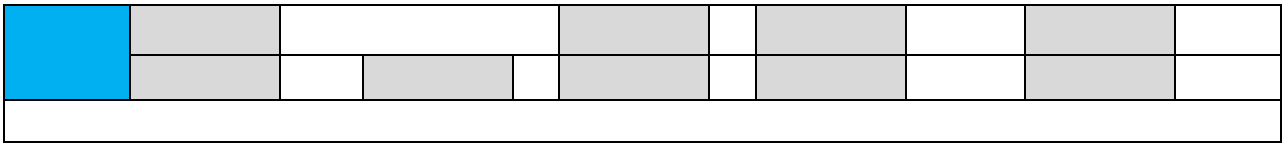


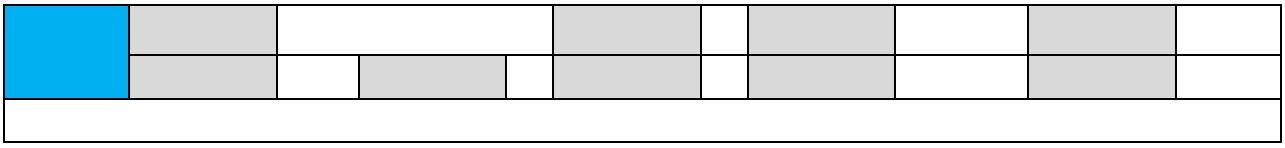

0.003
0.0028
0.0026
0.0024
0.0022
0.002
0.0018
0.0016
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
0
50
100
150
200
250
300
350
400
450
500
Frequence(Hz)
ON
23: Iq.Ref
ON
14: Asr.Fdb
CRC
故障
连接设备
采集配置
状态显示
控制
调用
线性变换
读写参数
调用文件
E:\说明文档\BeconMonitor\BeconMonitor V3.7\BeconMonitor V3.7\2016年1月4日\
调用
波形采集
t1, t2, Δt, f
6.969
6.97
0.001
1149.0
回放速度
0.235
0.52
0
波形回放
游标显示
频域波形
退出
-0.285


0.000839506
0.0008
0.00075
0.0007
0.00065
0.0006
0.00055
0.0005
0.00045
0.0004
0.00035
0.0003
0.00025
0.0002
0.00015
0.0001
5E-5
0
0
100
200
300
400
500
600
700
764.951
Frequence(Hz)


0.10119
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0
34.7687
34.525
34.55
34.6
34.65
34.7
Frequence(Hz)

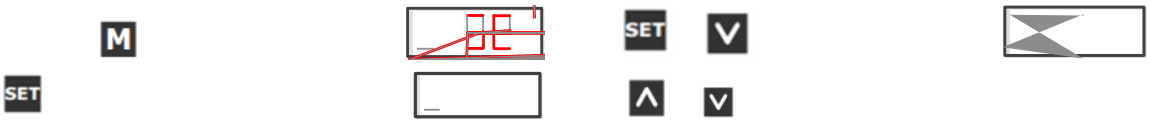
-
-
-





10


M
SET
SET


M
SET
SET

	PowerLink
PowerLink	PowerLink

	EtherCAT
EtherCAT	EtherCAT

	/ /

	( )

	Q3

	/ /

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11

11.1 Q3

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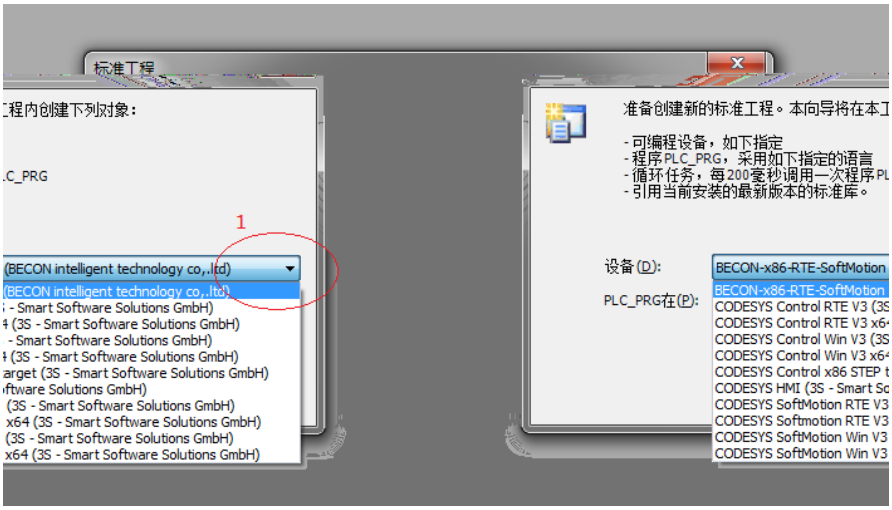
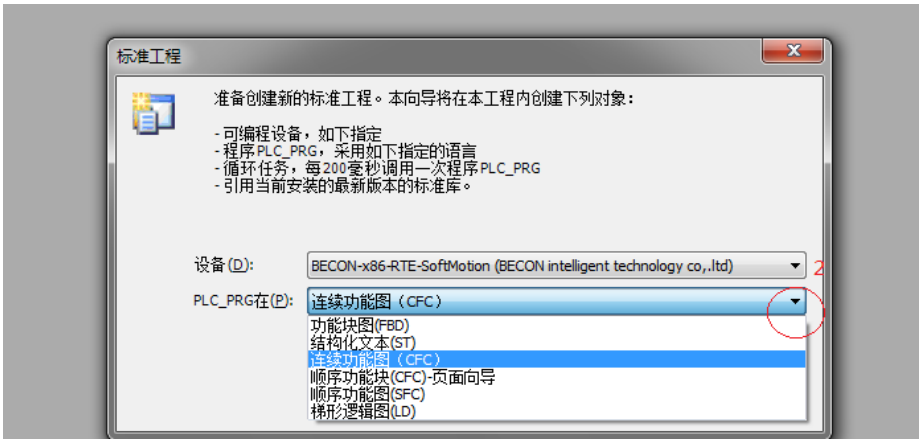
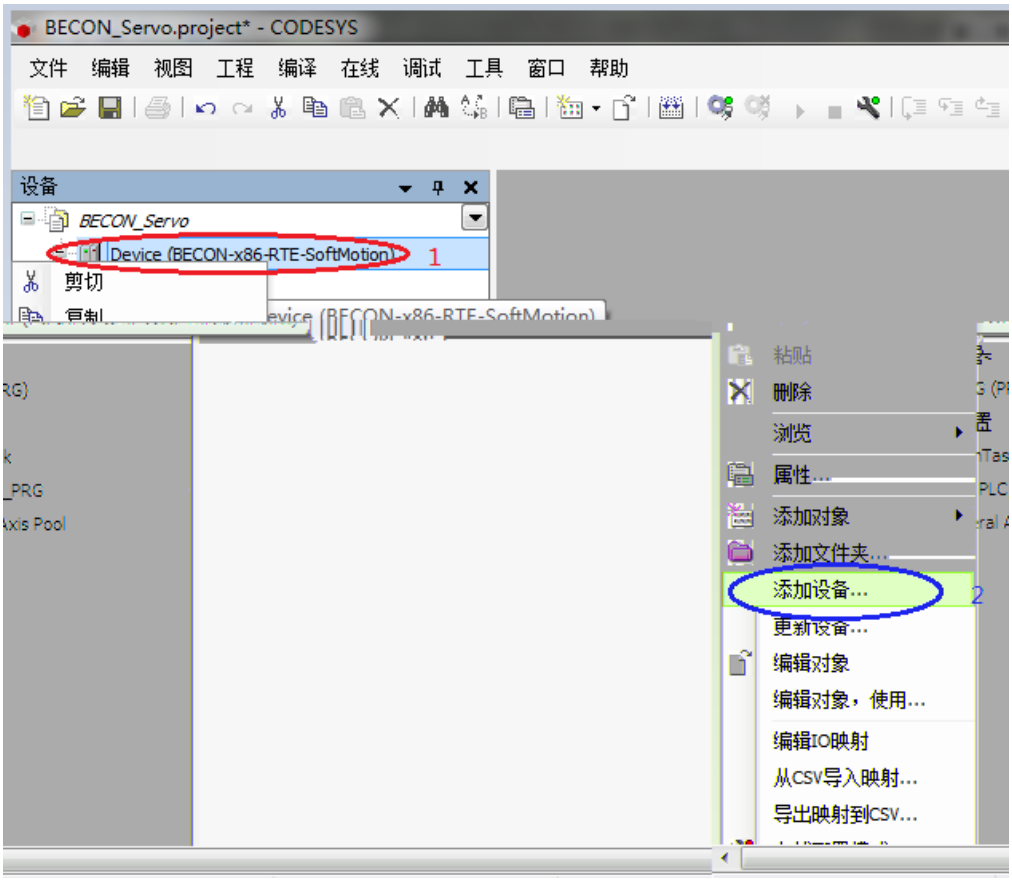
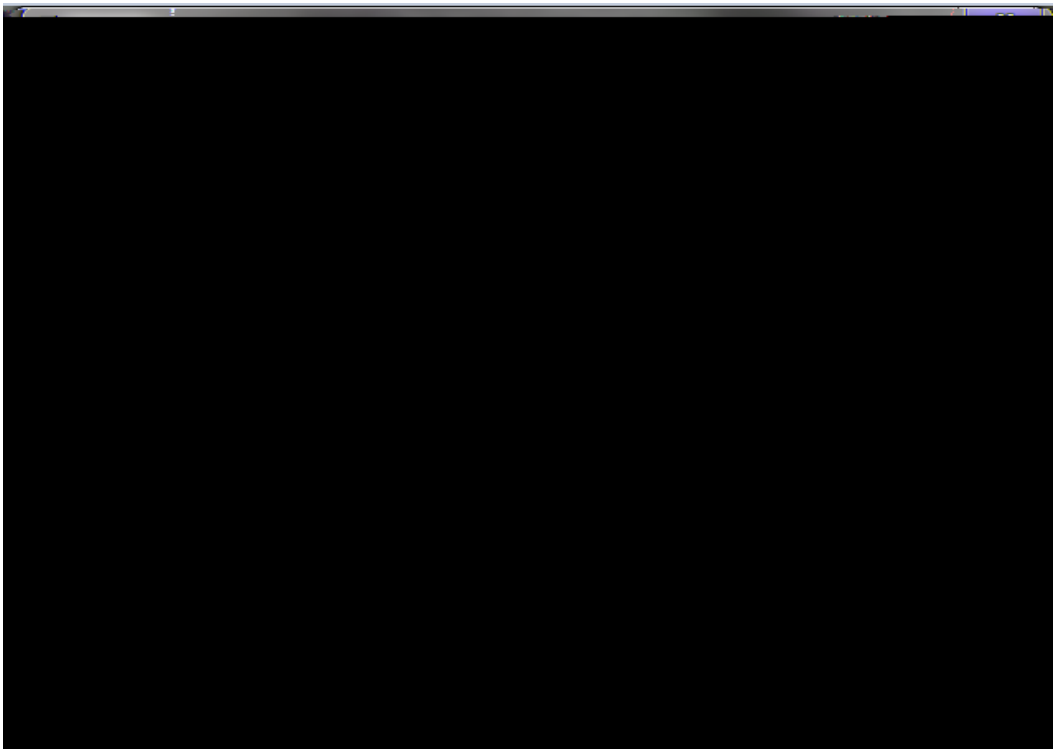
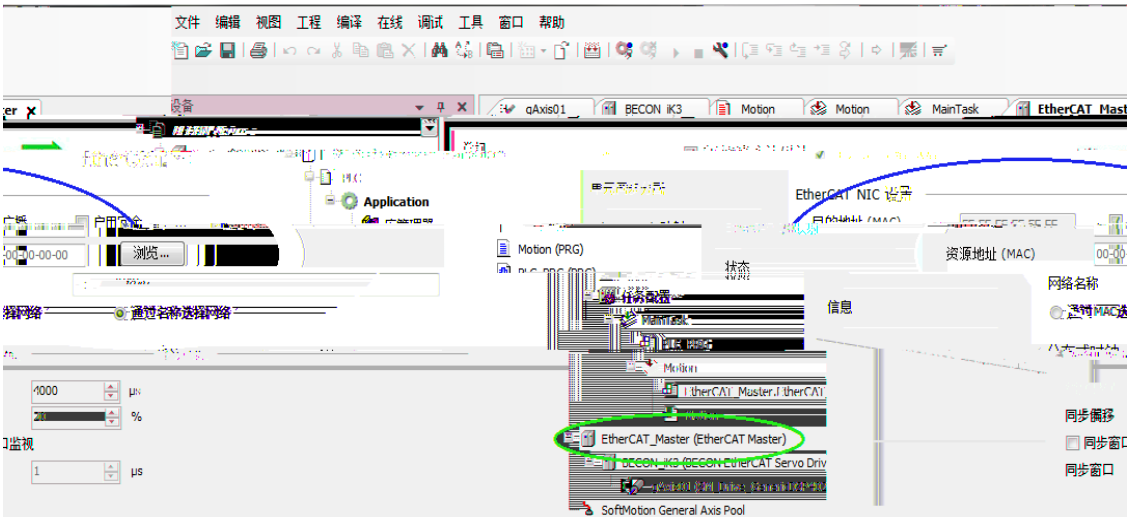

标准工程
准备创建新的标准工程。本向导将在本工
- 可编程设备，如下指定
- 程序PLC_PRG，采用如下指定的语言
- 循环任务，每200毫秒调用一次程序PL
- 引用当前安装的最新版本的标准库。
设备(D):
PLC_PRG在(P):
BECON-x86-RTE-SoftMotion
CODESYS Control RTE V3 (3S
CODESYS Control RTE V3 x6
CODESYS Control Win V3 (3S
CODESYS Control Win V3 x6
CODESYS Control x86 STEP t
CODESYS HMI (3S - Smart Sc
CODESYS SoftMotion RTE V3
CODESYS Softmotion RTE V3
CODESYS SoftMotion Win V3
CODESYS SoftMotion Win V3
1


标准工程
准备创建新的标准工程。本向导将在本工程内创建下列对象：
- 可编程设备，如下指定
- 程序PLC_PRG，采用如下指定的语言
- 循环任务，每200毫秒调用一次程序PLC_PRG
- 引用当前安装的最新版本的标准库。
设备(D):
BECON-x86-RTE-SoftMotion (BECON intelligent technology co,.ltd)
2
PLC_PRG在(P):
连续功能图（CFC）
功能块图(FBD)
结构化文本(ST)
连续功能图（CFC）
顺序功能块(CFC)-页面向导
顺序功能图(SFC)
梯形逻辑图(LD)

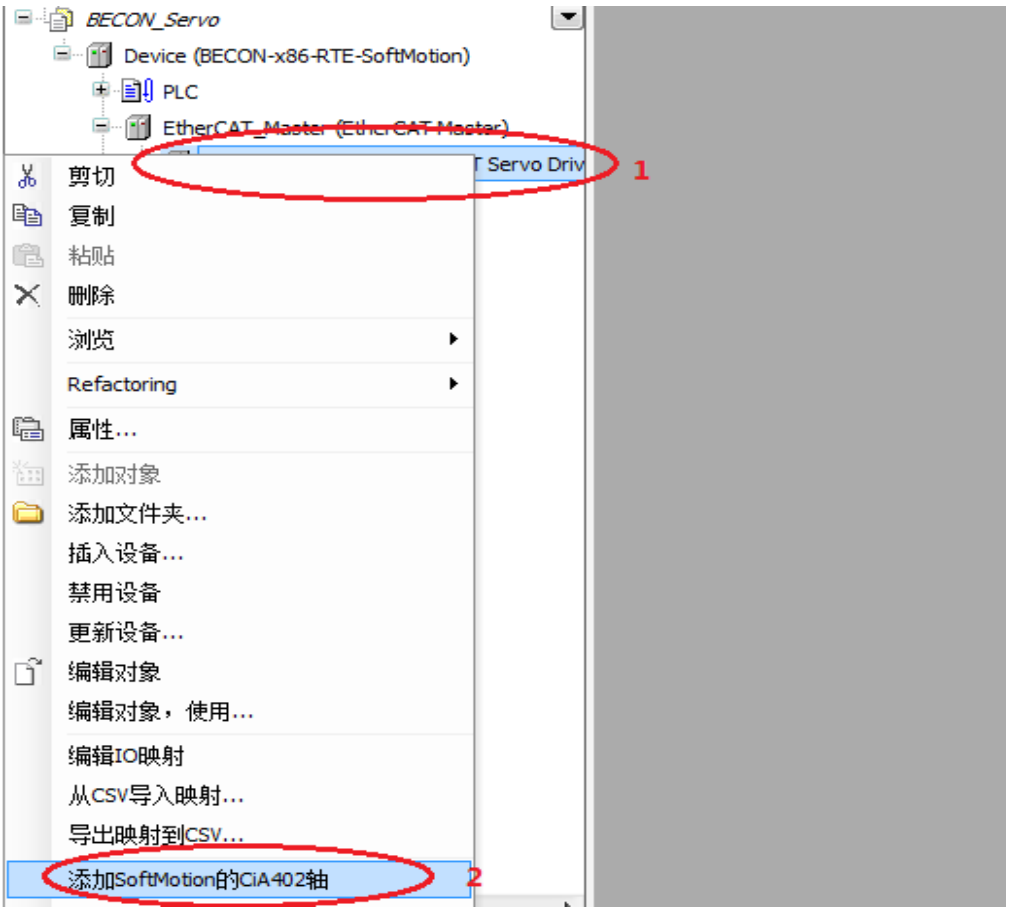
→ →

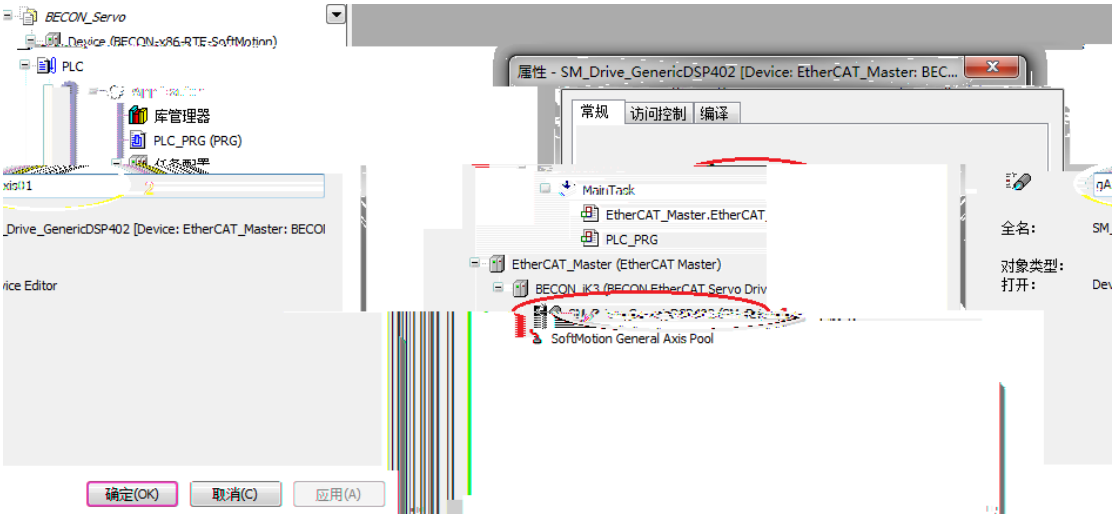

BECON_Servo.project* - CODESYS
文件 编辑 视图 工程 编译 在线 调试 工具 窗口 帮助
设备
BECON_Servo
Device (BECON-x86-RTE-SoftMotion)
1
剪切
粘贴
删除
浏览
属性...
添加对象
添加文件夹...
添加设备...
2
更新设备...
编辑对象
编辑对象，使用...
编辑IO映射
从CSV导入映射...
导出映射到CSV...



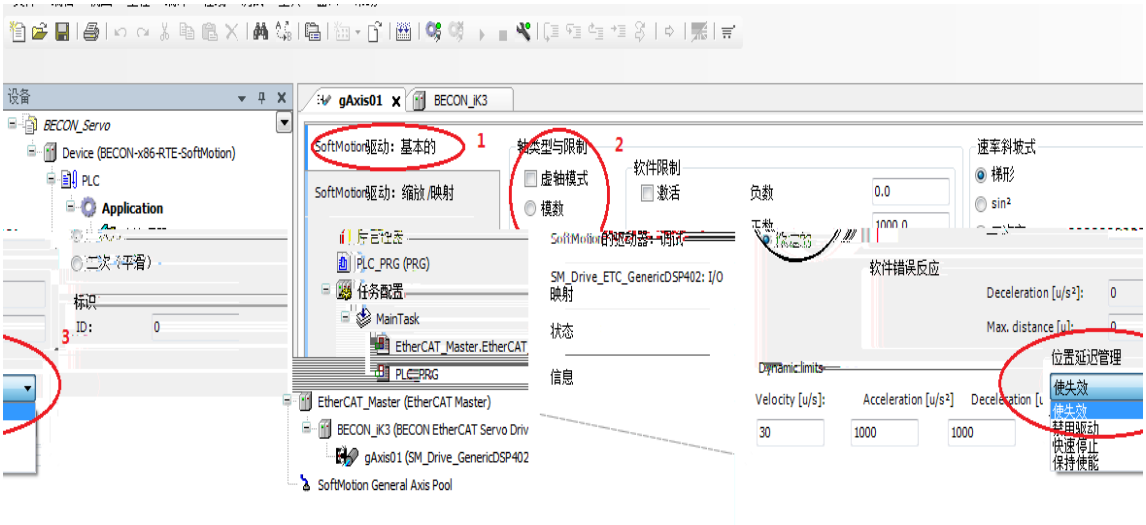

文件 编辑 视图 工程 编译 在线 调试 工具 窗口 帮助
qAxis01
BECON iK3
Motion
Motion
MainTask
EtherCAT_Mast
Application
浏览...
Motion (PRG)
EtherCAT NIC
资源地址 (MAC)
网络名称
信息
状态
EtherCAT_Master (EtherCAT Master)
SoftMotion General Axis Pool
同步偏移
同步窗口

→


BECON_Servo
Device (BECON-x86-RTE-SoftMotion)
PLC
EtherCAT_Master (EtherCAT Master)
Servo Driv
1
剪切
复制
粘贴
删除
浏览
Refactoring
属性...
添加对象
添加文件夹...
插入设备...
禁用设备
更新设备...
编辑对象
编辑对象，使用...
编辑IO映射
从CSV导入映射...
导出映射到CSV...
添加SoftMotion的CiA402轴
2


BECON_Servo
PLC
库管理器
PLC_PRG (PRG)
属性 - SM_Drive_GenericDSP402 [Device: EtherCAT_Master: BEC...
常规
访问控制
编译
MainTask
EtherCAT_Master.EtherCAT
PLC_PRG
EtherCAT_Master (EtherCAT Master)
SoftMotion General Axis Pool
全名:
对象类型:
打开:
确定(OK)
取消(C)
应用(A)

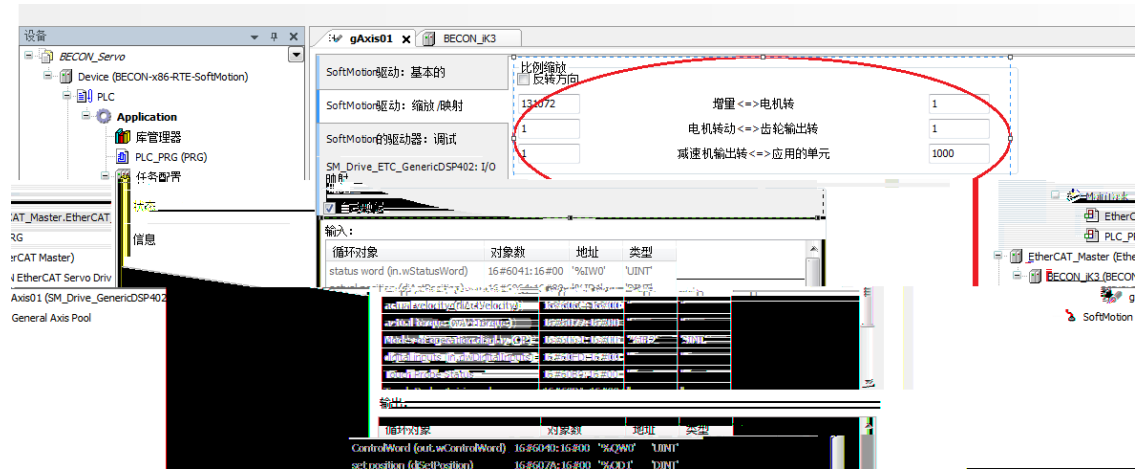
→ →


设备
BECON_Servo
Device (BECON-x86-RTE-SoftMotion)
PLC
Application
gAxis01
BECON_iK3
SoftMotion驱动：基本的
SoftMotion驱动：缩放/映射
SoftMotion的驱动器：调试
SM_Drive_ETC_GenericDSP402: I/O映射
状态
信息
轴类型与限制
虚轴模式
模数
软件限制
激活
负数
速率斜坡式
梯形
sin²
标识
ID:
PLC_PRG (PRG)
任务配置
MainTask
EtherCAT_Master.EtherCAT
PLC_PRG
EtherCAT_Master (EtherCAT Master)
BECON_iK3 (BECON EtherCAT Servo Driv
gAxis01 (SM_Drive_GenericDSP402
SoftMotion General Axis Pool
软件错误反应
Deceleration [u/s²]:
Max. distance [u]:
位置延迟管理
使失效
使失效
禁用驱动
快速停止
保持使能
Dynamic limits
Velocity [u/s]:
Acceleration [u/s²]
30
1000
1000

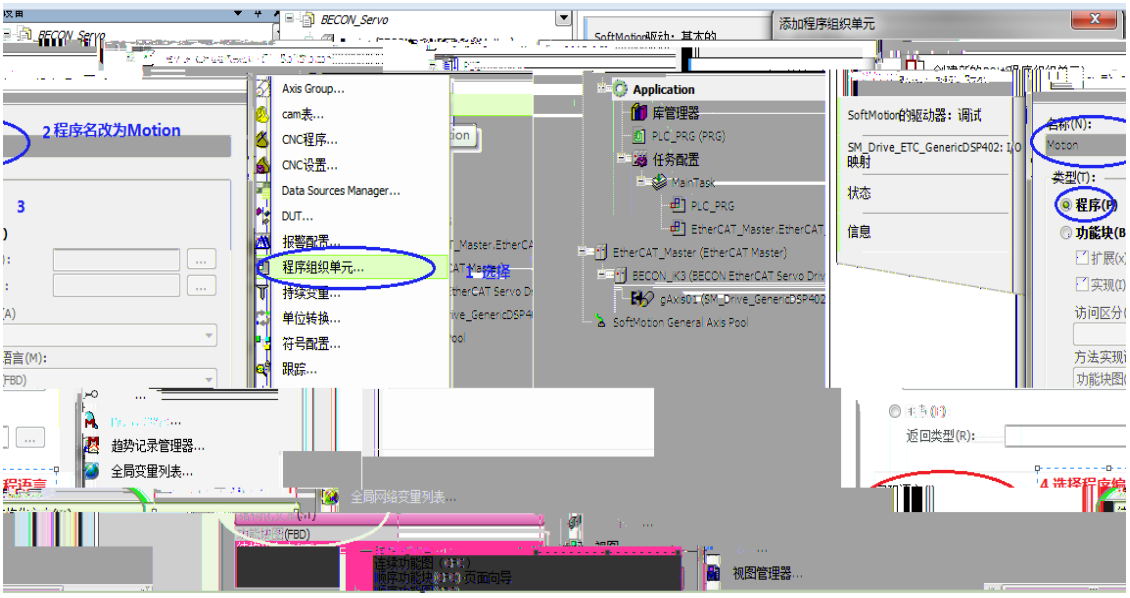
⇔

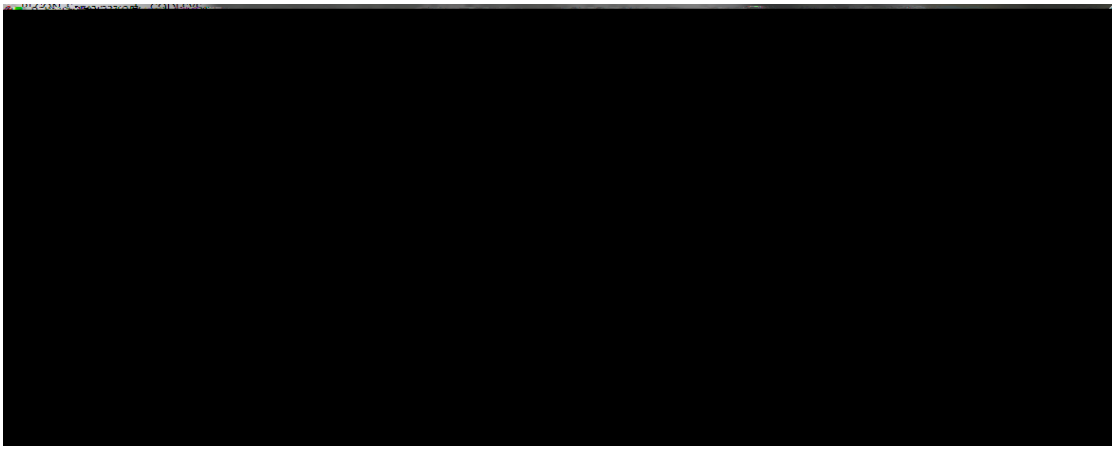
⇔

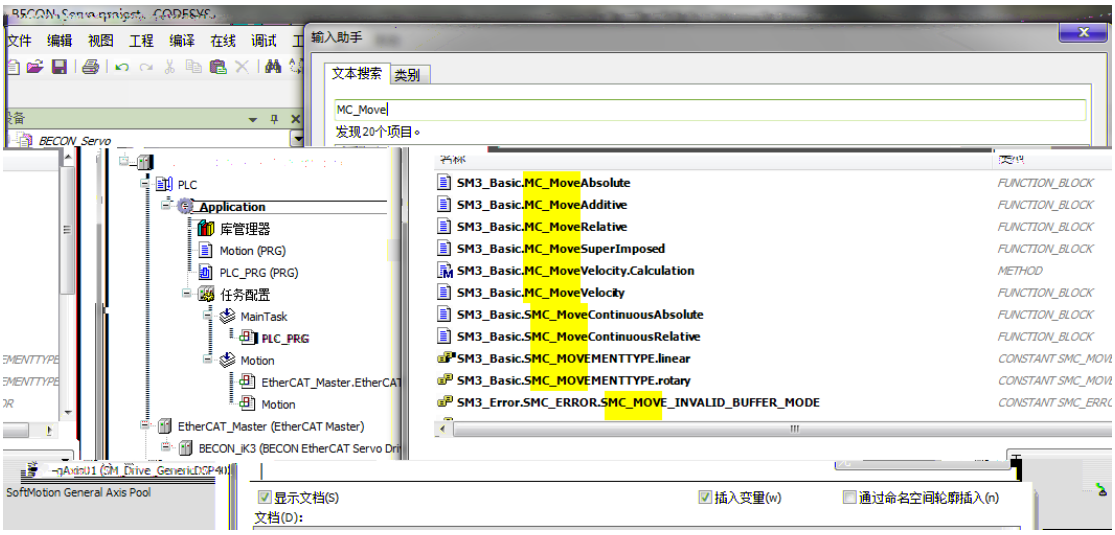
⇔

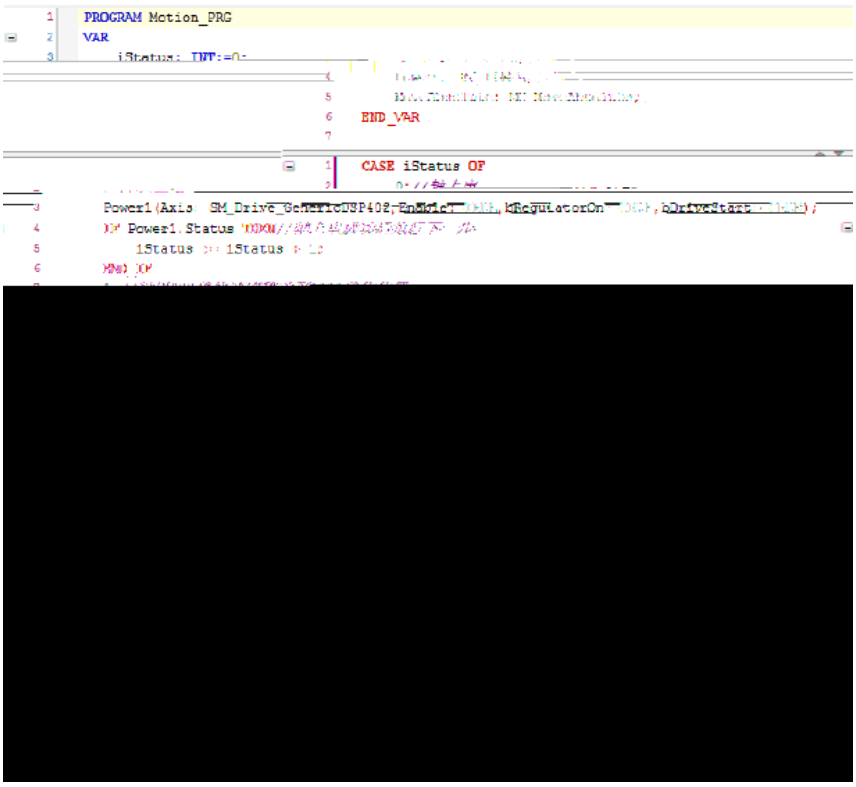

设备
BECON_Servo
Device (BECON-x86-RTE-SoftMotion)
PLC
Application
库管理器
PLC_PRG (PRG)
任务配置
gAxis01
BECON_iK3
SoftMotion驱动：基本的
SoftMotion驱动：缩放/映射
SoftMotion的驱动器：调试
SM_Drive_ETC_GenericDSP402: I/O映射
比例缩放
反转方向
131072
增量<=>电机转
电机转动<=>齿轮输出转
减速机输出转<=>应用的单元
信息
输入：
循环对象
对象数
地址
类型
status word (in.wStatusWord)
16#6041:16#00
'%IW0'
'UINT'
输出：
ControlWord (out.wControlWord)
16#6040:16#00
'%QW0'
'UINT'
set position (dSetPosition)
16#607A:16#00
'%QD1'
'DINT'
EtherCAT_Master (Ethe
BECON_iK3 (BECON
SoftMotion

→

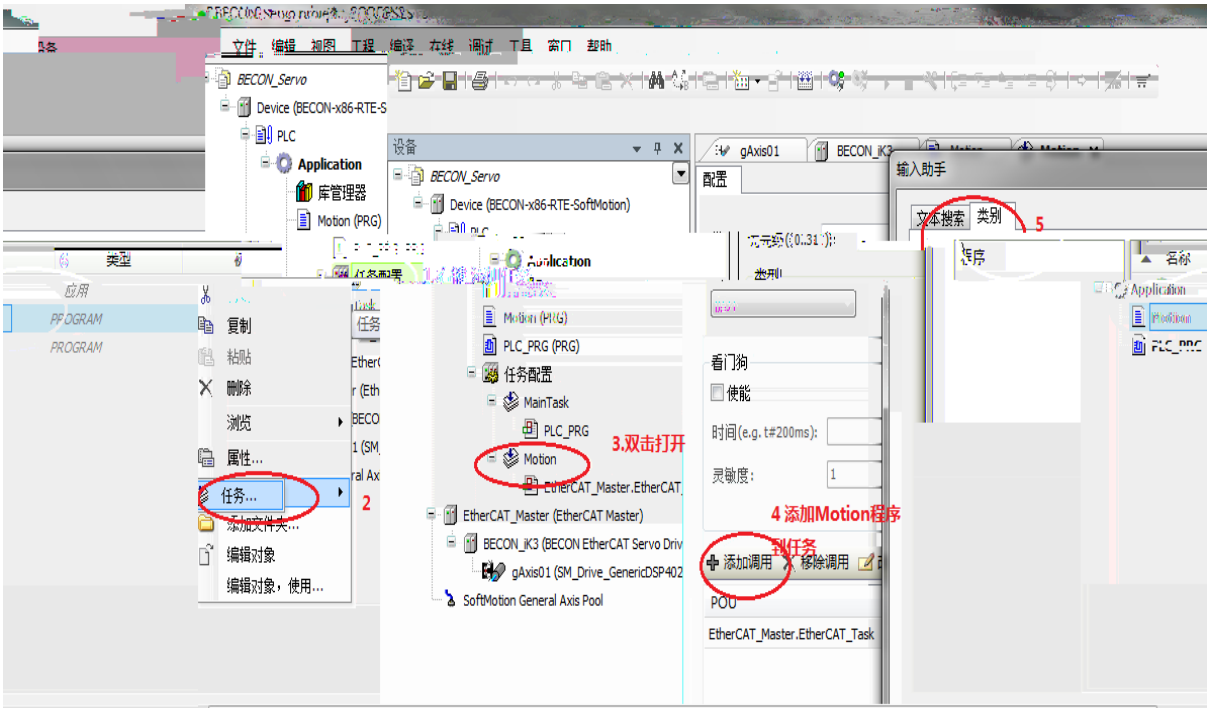

2 程序名改为Motion
3
Axis Group...
cam表...
CNC程序...
CNC设置...
Data Sources Manager...
DUT...
报警配置...
程序组织单元...
持续变量...
单位转换...
符号配置...
跟踪...
趋势记录管理器...
全局变量列表...
全局网络变量列表...
视图管理器...
添加程序组织单元
SoftMotion的驱动器：调试
名称(N):
Motion
类型(T):
程序(P)
功能块(B
返回类型(R):
Application
库管理器
PLC_PRG (PRG)
任务配置
MainTask
EtherCAT_Master (EtherCAT Master)
SoftMotion General Axis Pool

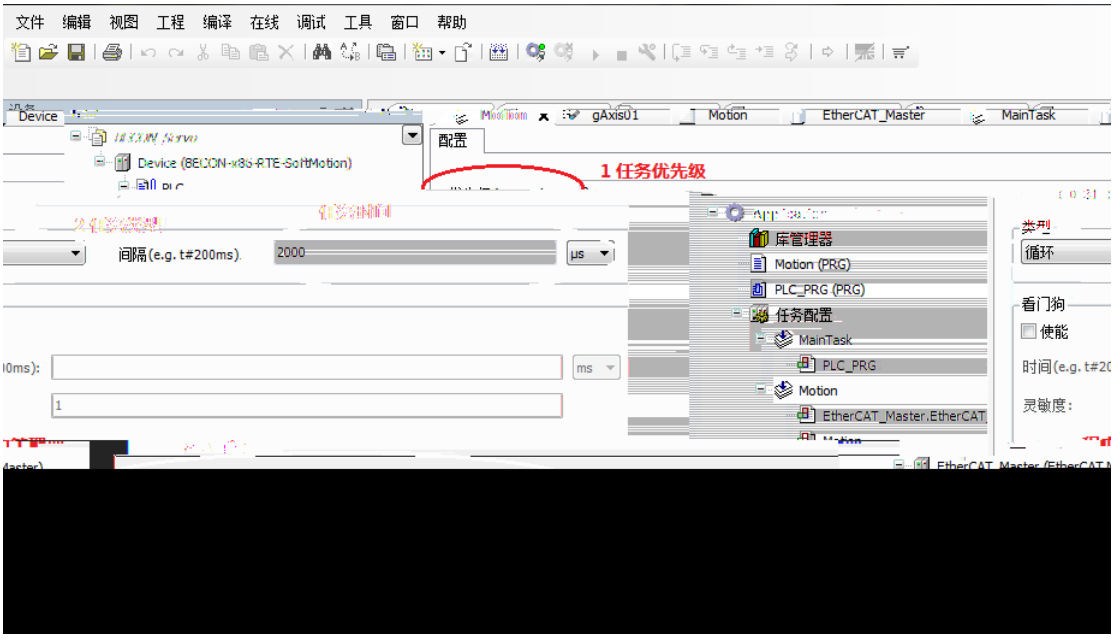


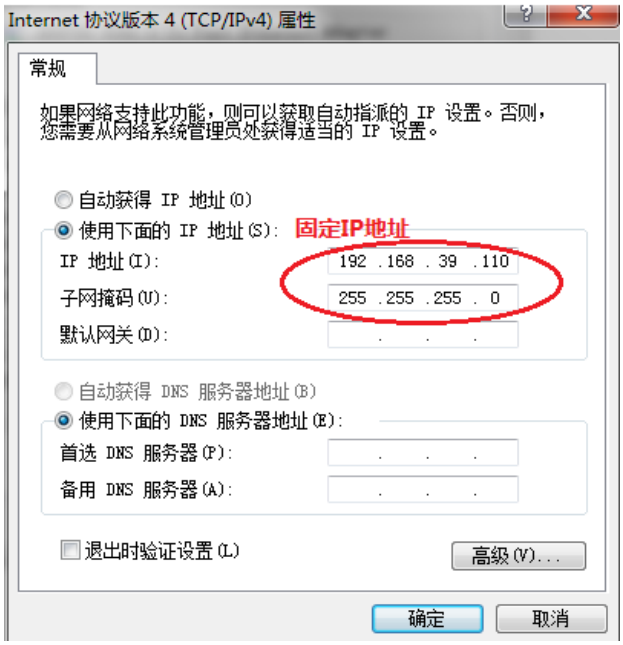

输入助手
文本搜索
类别
MC_Move
发现20个项目。
SM3_Basic.MC_MoveAbsolute
SM3_Basic.MC_MoveAdditive
SM3_Basic.MC_MoveRelative
SM3_Basic.MC_MoveSuperImposed
SM3_Basic.MC_MoveVelocity.Calculation
SM3_Basic.MC_MoveVelocity
SM3_Basic.SMC_MoveContinuousAbsolute
SM3_Basic.SMC_MoveContinuousRelative
SM3_Basic.SMC_MOVEMENTTYPE.linear
SM3_Basic.SMC_MOVEMENTTYPE.rotary
SM3_Error.SMC_ERROR.SMC_MOVE_INVALID_BUFFER_MODE
PLC
Application
库管理器
Motion (PRG)
PLC_PRG (PRG)
任务配置
MainTask
PLC_PRG
Motion
EtherCAT_Master (EtherCAT Master)
SoftMotion General Axis Pool
显示文档(S)
插入变量(w)
文档(D):


PROGRAM Motion_PRG
VAR
END_VAR
CASE iStatus OF

→


BECON_Servo
Device (BECON-x86-RTE-S
PLC
Application
库管理器
Motion (PRG)
设备
BECON_Servo
Device (BECON-x86-RTE-SoftMotion)
Application
Motion (PRG)
PLC_PRG (PRG)
任务配置
MainTask
PLC_PRG
Motion
EtherCAT_Master (EtherCAT Master)
BECON_iK3 (BECON EtherCAT Servo Driv
gAxis01 (SM_Drive_GenericDSP402
SoftMotion General Axis Pool
复制
粘贴
删除
浏览
属性...
任务...
添加文件夹...
编辑对象
编辑对象，使用...
2
3.双击打开
4 添加Motion程序
到任务
添加调用
移除调用
POU
EtherCAT_Master.EtherCAT_Task
gAxis01
BECON_iK3
输入助手
文本搜索
类别
5
看门狗
使能
时间(e.g. t#200ms):
灵敏度:
1
名称
Application
PLC_PRG

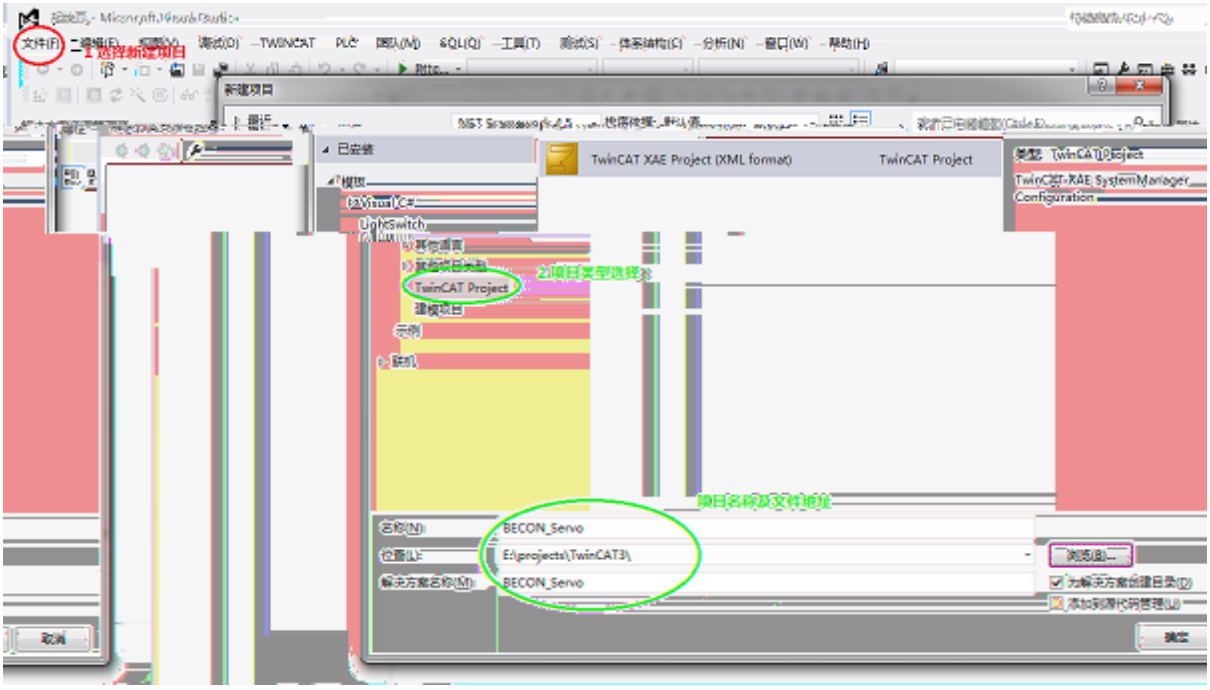

文件 编辑 视图 工程 编译 在线 调试 工具 窗口 帮助
Device
Device (BECKHOFF-x86-RTE-SoftMotion)
gAxis01
Motion
EtherCAT_Master
MainTask
配置
1 任务优先级
间隔(e.g. t#200ms):
2000
μs
库管理器
Motion (PRG)
PLC_PRG (PRG)
任务配置
MainTask
PLC_PRG
Motion
EtherCAT_Master.EtherCAT
类型
循环
看门狗
使能
灵敏度:


Internet 协议版本 4 (TCP/IPv4) 属性
常规
如果网络支持此功能，则可以获取自动指派的 IP 设置。否则，您需要从网络系统管理员处获得适当的 IP 设置。
自动获得 IP 地址(O)
使用下面的 IP 地址(S):
固定IP地址
IP 地址(I): 192 . 168 . 39 . 110
子网掩码(U): 255 . 255 . 255 . 0
默认网关(D):
自动获得 DNS 服务器地址(B)
使用下面的 DNS 服务器地址(E):
首选 DNS 服务器(P):
备用 DNS 服务器(A):
退出时验证设置(L)
高级(V)...
确定
取消

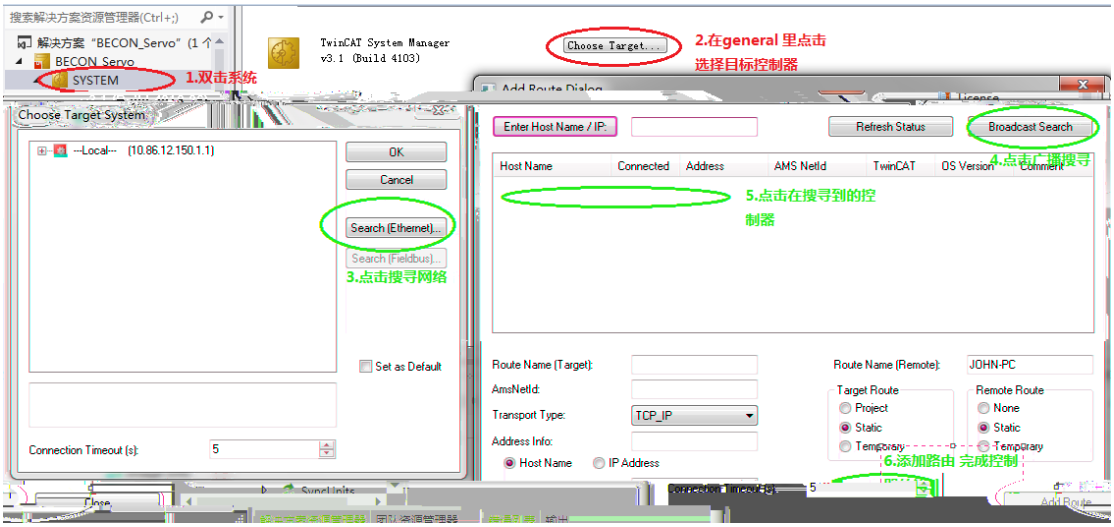
→ →

→

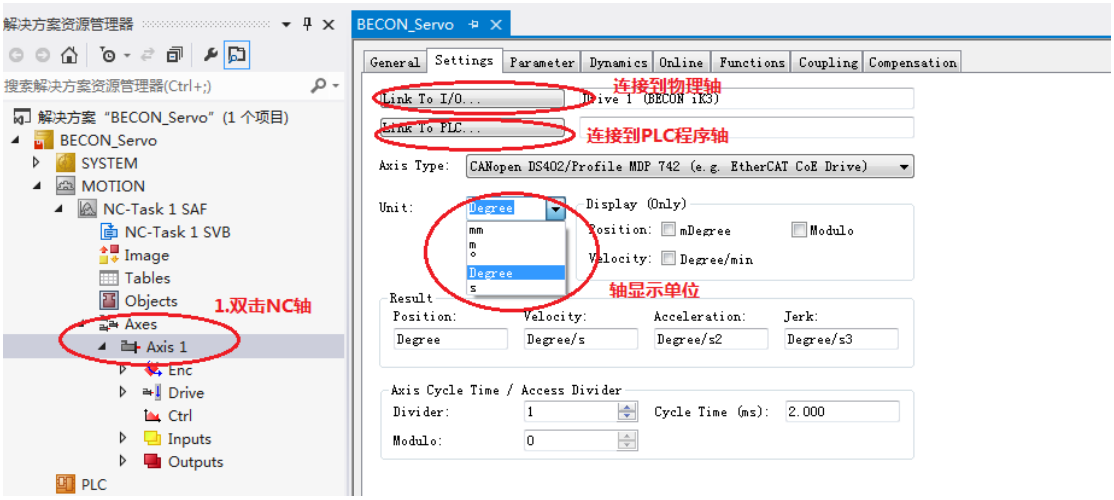
11.2 Q3 TwinCAT3

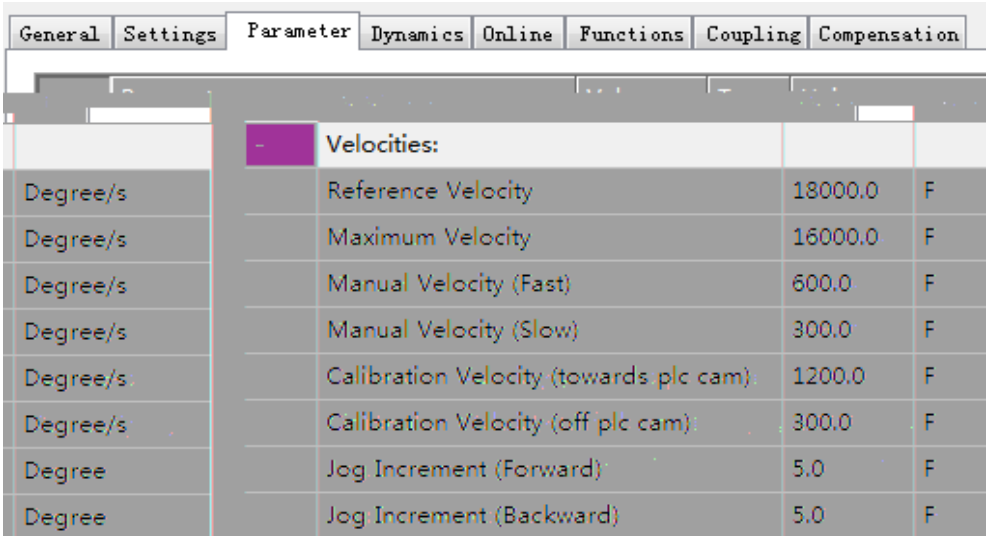

1.选择新建项目
2.项目类型选择
TwinCAT Project
项目名称及文件地址
BECON_Servo
E:\projects\TwinCAT3\
BECON_Servo

→


1.双击系统
SYSTEM
2.在general 里点击
选择目标控制器
Choose Target...
3.点击搜寻网络
Search (Ethernet)...
4.点击广播搜寻
Broadcast Search
5.点击在搜寻到的控
制器
6.添加路由 完成控制

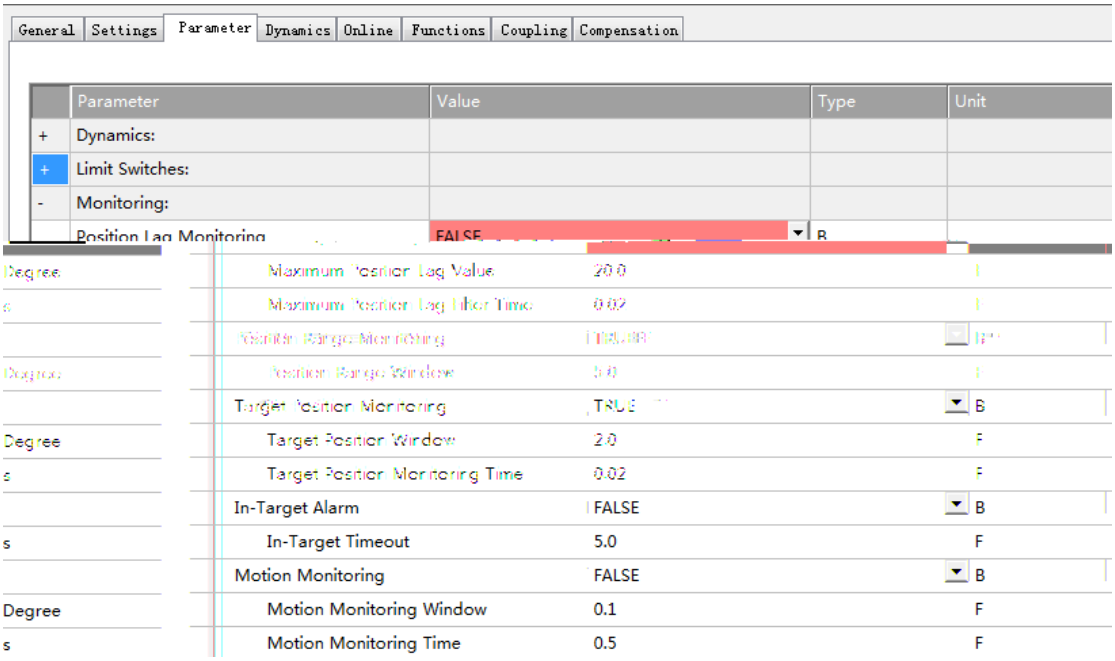
-
-

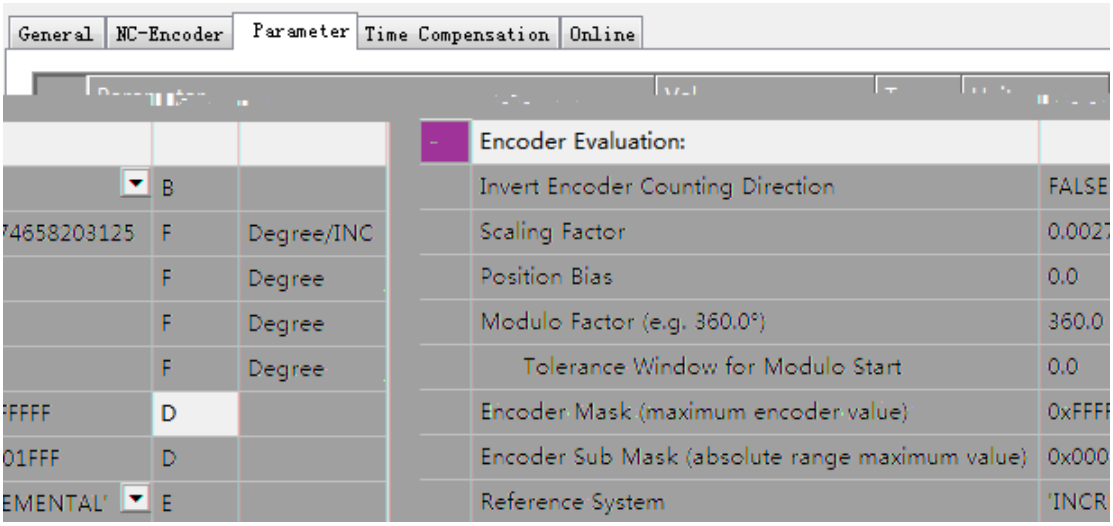

解决方案资源管理器
搜索解决方案资源管理器(Ctrl+;)
解决方案 "BECON_Servo" (1 个项目)
BECON_Servo
SYSTEM
MOTION
NC-Task 1 SAF
NC-Task 1 SVB
Image
Tables
Objects
Axes
Axis 1
Enc
Drive
Ctrl
Inputs
Outputs
PLC
1.双击NC轴
BECON_Servo
General
Settings
Parameter
Dynamics
Online
Functions
Coupling
Compensation
Link To I/O...
Drive 1 (BECON iK3)
连接到物理轴
Link To PLC...
连接到PLC程序轴
Axis Type:
CANopen DS402/Profile MDP 742 (e.g. EtherCAT CoE Drive)
Unit:
Degree
mm
m
°
Degree
s
Display (Only)
Position:
mDegree
Modulo
Velocity:
Degree/min
轴显示单位
Result
Position:
Velocity:
Acceleration:
Jerk:
Degree
Degree/s
Degree/s2
Degree/s3
Axis Cycle Time / Access Divider
Divider:
1
Cycle Time (ms):
2.000
Modulo:
0


General
Settings
Parameter
Dynamics
Online
Functions
Coupling
Compensation
Velocities:
Degree/s
Reference Velocity
18000.0
F
Degree/s
Maximum Velocity
16000.0
F
Degree/s
Manual Velocity (Fast)
600.0
F
Degree/s
Manual Velocity (Slow)
300.0
F
Degree/s
Calibration Velocity (towards plc cam)
1200.0
F
Degree/s
Calibration Velocity (off plc cam)
300.0
F
Degree
Jog Increment (Forward)
5.0
F
Degree
Jog Increment (Backward)
5.0
F

General | Settings | Parameter | Dynamics | Online | Functions | Coupling | Compensation

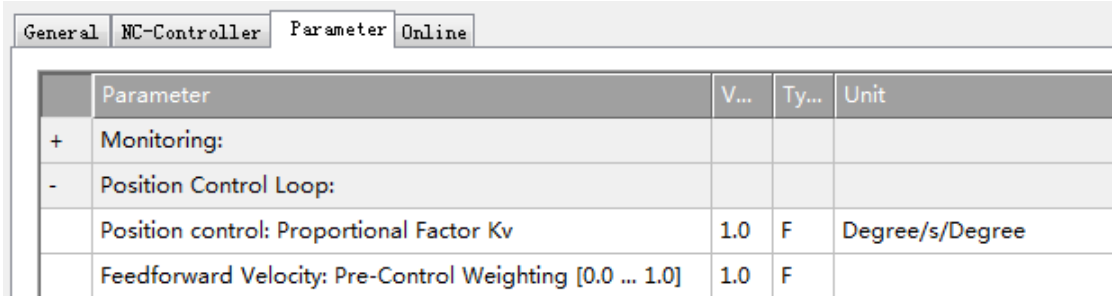
	Parameter	Value	Type	Unit
+	Velocities:			
-	Dynamics:			
	Acceleration	9000.0	F	Degree/s2
	Deceleration	8000.0	F	Degree/s2
	Jerk	2250.0	F	Degree/s3
	Fast Axis Stop Signal Type (optional)	'OFF (defa...	E	
	Fast Acceleration (optional)	0.0	F	Degree/s2
	Fast Deceleration (optional)	0.0	F	Degree/s2
	Fast Jerk (optional)	0.0	F	Degree/s3

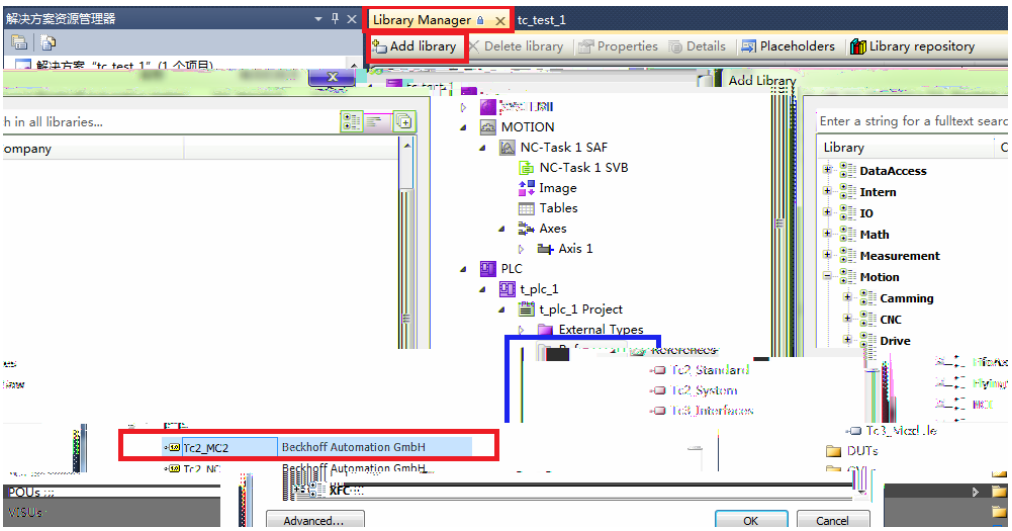


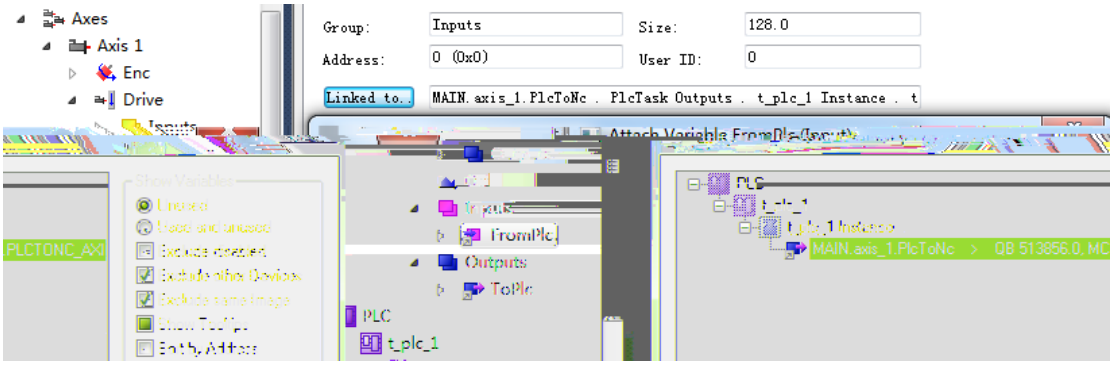


$$GM_{max} = 2^{SingleturnBits+MultiturnBits} - 1$$

$$GM_{ST} = 2^{SingleturnBits} - 1$$

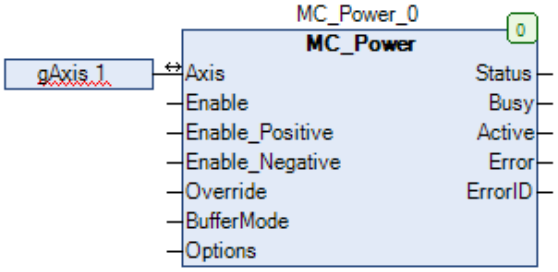



Library Manager
tc_test_1
Add library
Delete library
Properties
Details
Placeholders
Library repository
Add Library
MOTION
NC-Task 1 SAF
NC-Task 1 SVB
Image
Tables
Axes
Axis 1
PLC
t_plc_1
t_plc_1 Project
External Types
Library
DataAccess
Intern
IO
Math
Measurement
Motion
Camming
CNC
Drive
Tc2_MC2
Beckhoff Automation GmbH
Advanced...
OK
Cancel

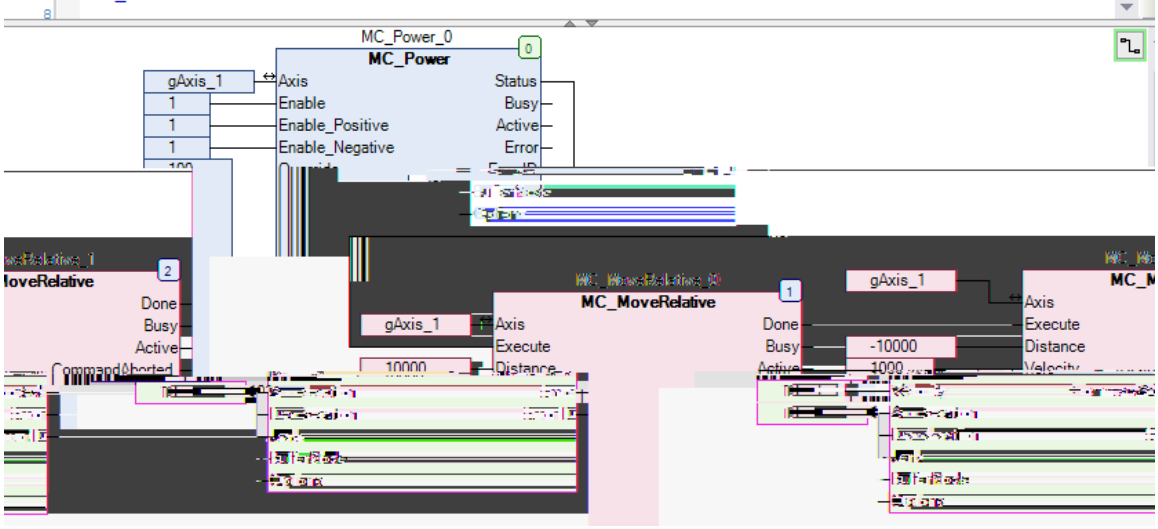

Axes
Axis 1
Enc
Drive
Inputs
Group:
Inputs
Size:
128.0
Address:
0 (0x0)
User ID:
0
Linked to...
MAIN.axis_1.PlcToNc . PlcTask Outputs . t_plc_1 Instance . t
Attach Variable FromPlc (Input)
FromPlc
Outputs
ToPlc
PLC
t_plc_1
MAIN.axis_1.PlcToNc


Axes
Axis 1
Enc
Group:
Outputs
Size:
256.0
Address:
0 (0x0)
User ID:
0
Attach Variable ToPlc (Output)
ToPlc
PLC
t_plc_1

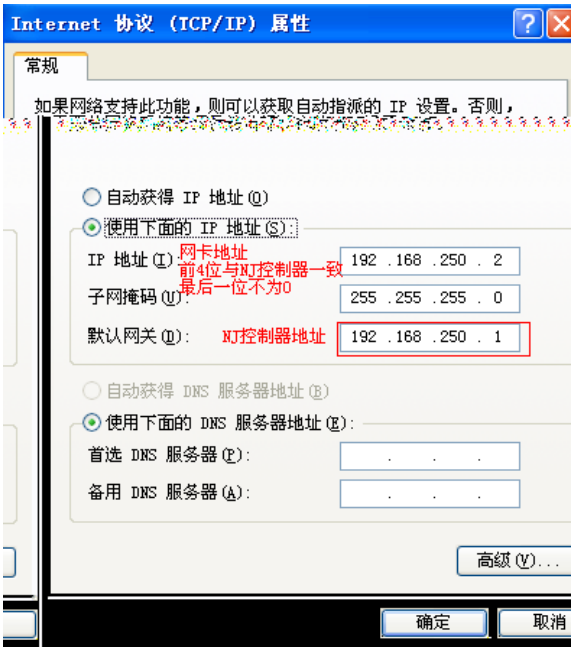
```
POU*  MAIN
3       MC_Power_0: MC_Power;
4       gAxis_1:Axis_REF;
5       MC_MoveRelative_0: MC_MoveRelative;
6   END_VAR
7
```

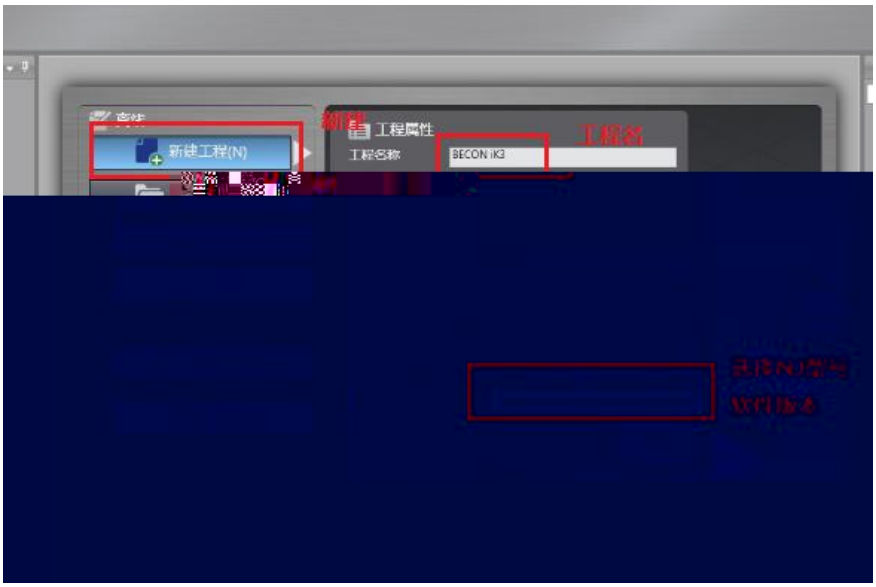



```
PROGRAM POU
VAR
    MC_Power_0: MC_Power;
    gAxis_1:Axis_REF;
    MC_MoveRelative_0: MC_MoveRelative;
    MC_MoveRelative_1: MC_MoveRelative;
END_VAR
```

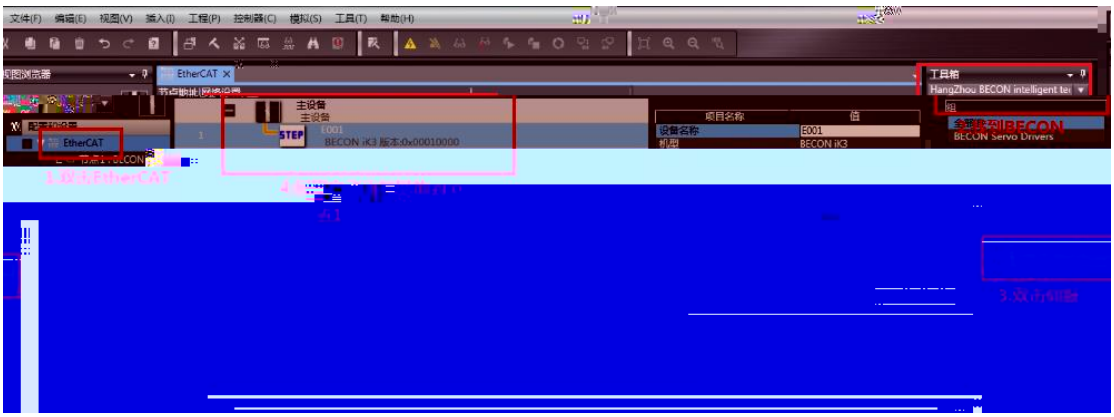


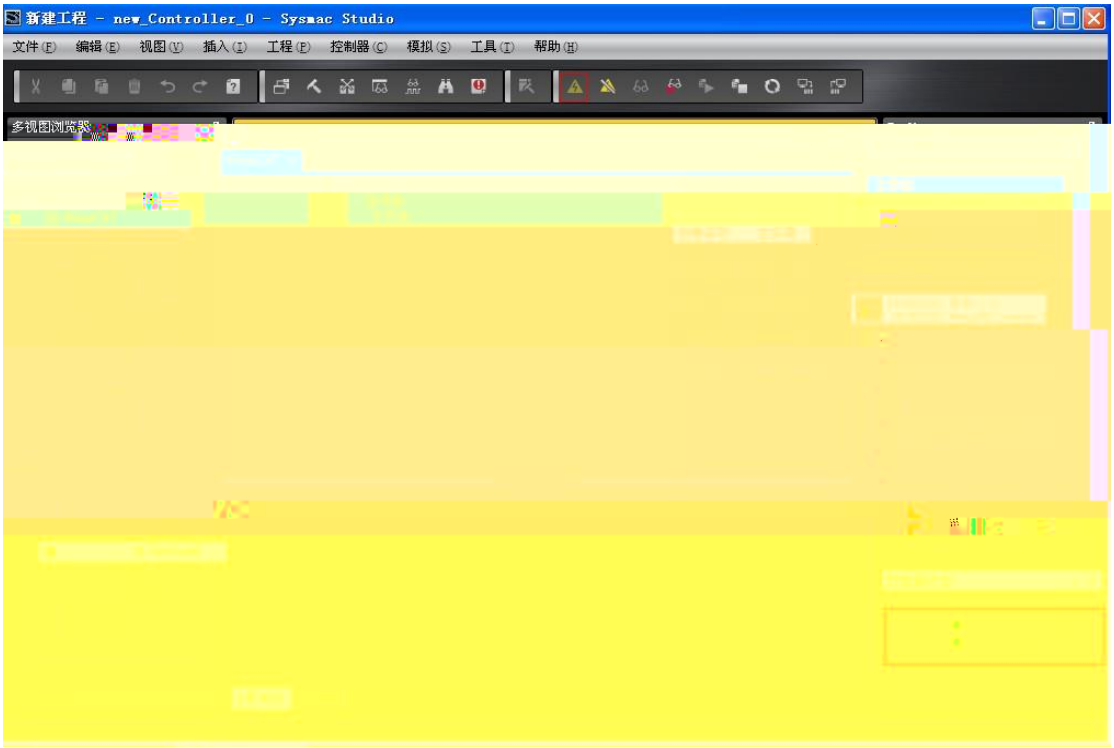
fi




新建工程(N)
工程属性
工程名称
BECON iK3
工程名


通信设置
连接类型
请选择一个在线时每次与控制器连接时使用的方法。
USB-直接连接
Ethernet-直接连接
USB-远程连接
Ethernet-Hub连接
每次在线连接时，请从以下选项中选择。
USB-直接连接
Ethernet-直接连接
USB-远程连接
Ethernet-Hub连接


文件(F) 编辑(E) 视图(V) 插入(I) 工程(P) 控制器(C) 模拟(S) 工具(T) 帮助(H)
EtherCAT
工具箱
HangZhou BECON intelligent te
主设备
E001
BECON iK3 版本:0x00010000
项目名称
值
设备名称
E001
BECON iK3
BECON Servo Drivers
EtherCAT
1.双击EtherCAT
3.双击创建

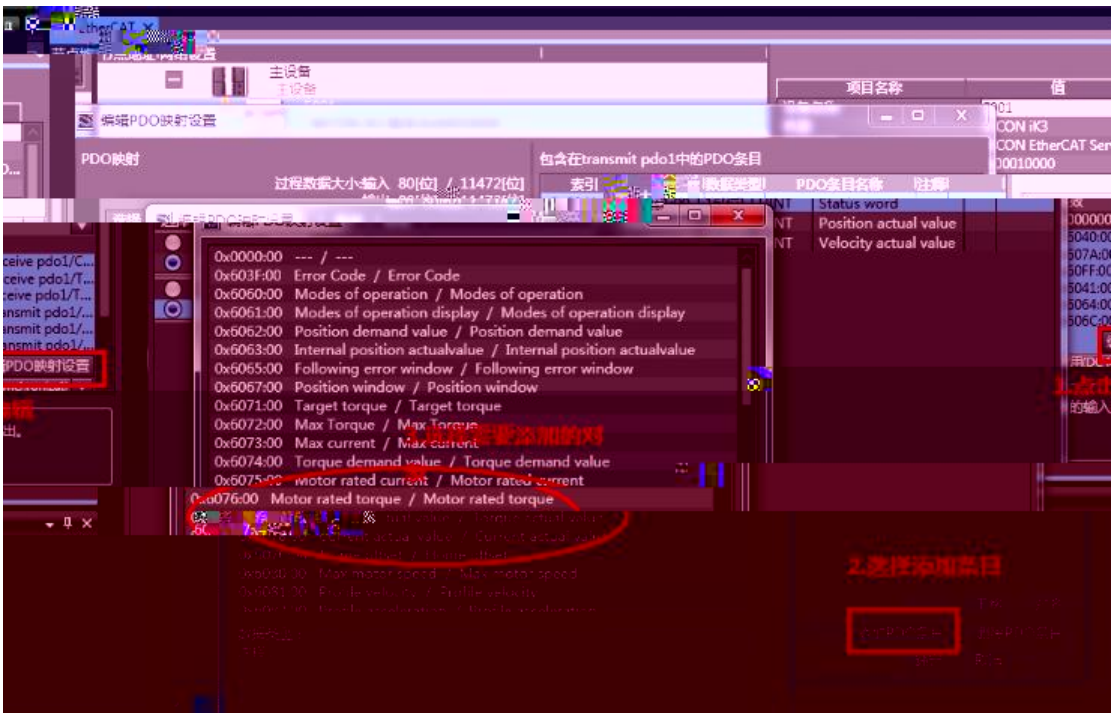

新建工程 - new_Controller_0 - Sysmac Studio
文件(F) 编辑(E) 视图(V) 插入(I) 工程(P) 控制器(C) 模拟(S) 工具(T) 帮助(H)
多视图浏览器

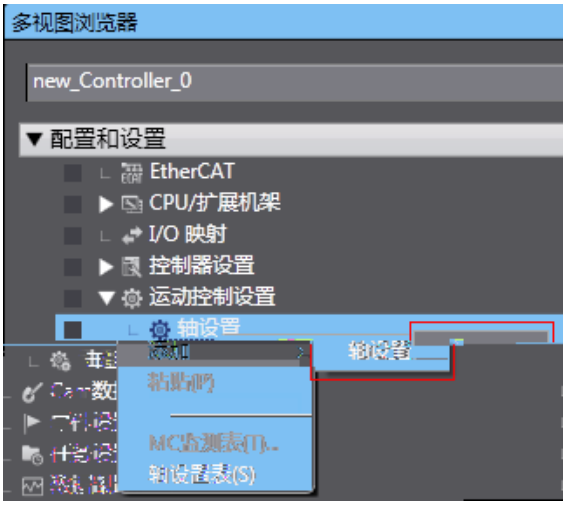

多视图浏览器
new_Controller_0
配置和设置
EtherCAT
CPU/扩展机架
I/O 映射
控制器设置
操作设置
内置EtherNet/IP端口
运动控制设置
轴设置
轴组设置
Cam数据设置
事件设置
任务设置
数据跟踪设置
编程
POUs
程序
Program0
Section0
功能
功能块
数据
任务
筛选器
配置和设置
EtherCAT
节点地址|网络设置
主设备
剪切(T)
复制(C)
粘贴(P)
删除(D)
撤销(U)
重做(R)
导入从设备设置和插入新从设备(O)
导出从设备设置(X)
写入从设备节点地址(W)
与物理网络配置比较和合并
取得从设备串口号(N)
取消所有设置(L)
显示诊断/统计信息(G)
显示产品信息(A)
显示包监测(K)
显示ESI库
输出ENS文件
导出所有耦合器I/O分配
项目名称
值
设备名称 主设备
机型 主设备
产品名称 主设备
从设备数... 0
PDO通信... 10... 微秒
电缆总长... 1000 米
故障弱化... 故障弱...
从设备启... 30 秒
PDO通信... 2 次
设备名称
设置主设备名称。
输出
输出
编译

主设备
主设备
STEP
E001
BECON iK3 版本:0x00010000
应用物理网络配置(A)
某些从设备像电源单元不包括在物理网络配置中。
Close

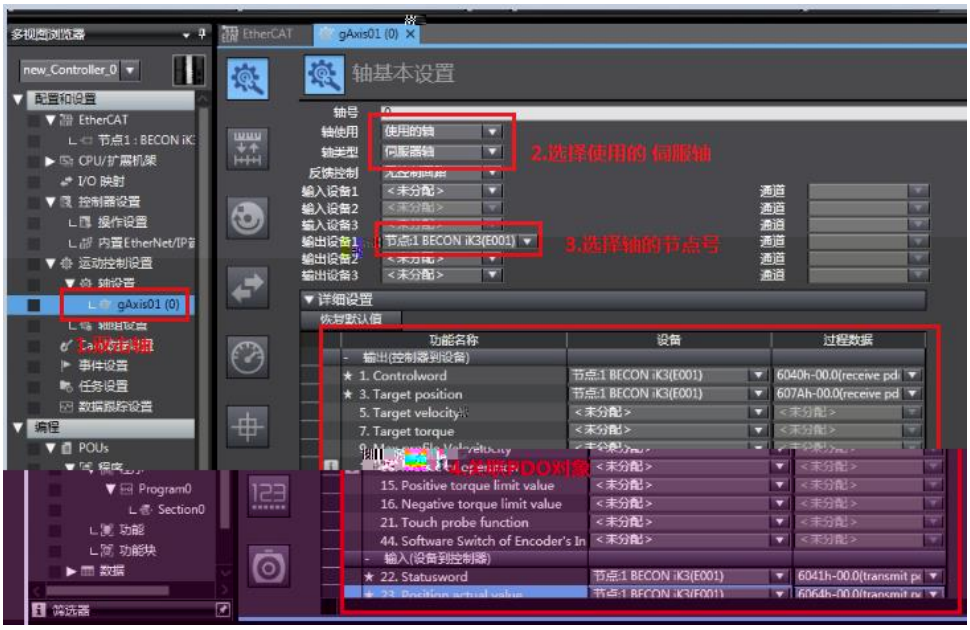
EtherCAT
节点地址|网络设置
主设备
主设备
STEP
E001
BECON iK3 版本:0x00010000
从站扫描OK

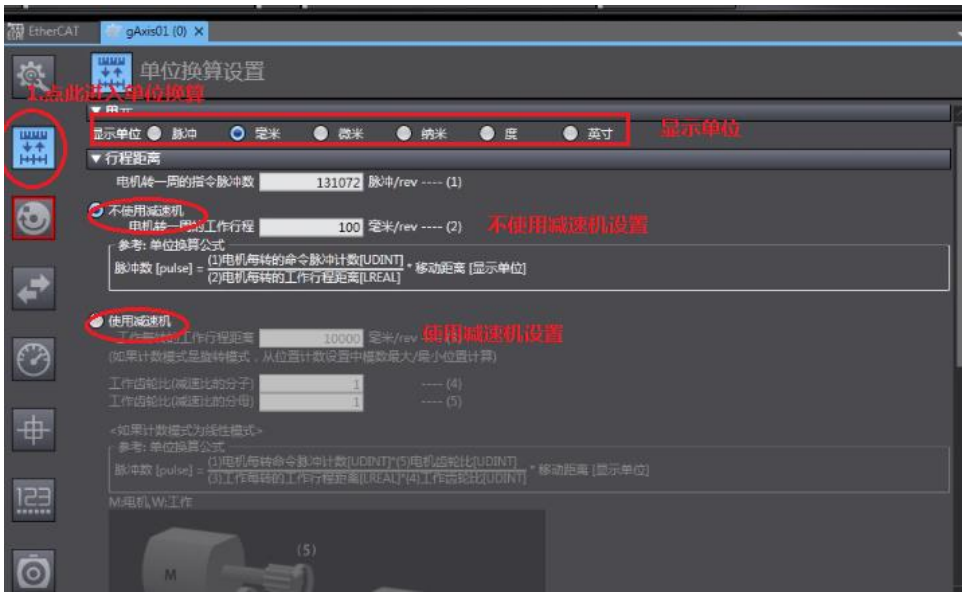
→ → →

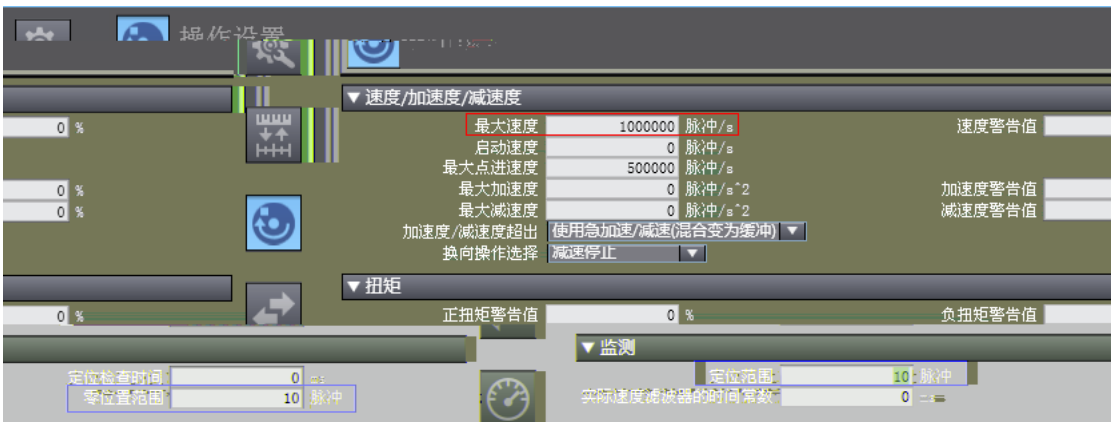

编辑PDO映射设置
PDO映射
包含在transmit pdo1中的PDO条目
过程数据大小:输入 80[位] / 11472[位]
索引
PDO条目名称
0x0000:00 --- / ---
0x603F:00 Error Code / Error Code
0x6060:00 Modes of operation / Modes of operation
0x6061:00 Modes of operation display / Modes of operation display
0x6062:00 Position demand value / Position demand value
0x6063:00 Internal position actualvalue / Internal position actualvalue
0x6065:00 Following error window / Following error window
0x6067:00 Position window / Position window
0x6071:00 Target torque / Target torque
0x6072:00 Max Torque / Max Torque
0x6073:00 Max current / Max current
0x6074:00 Torque demand value / Torque demand value
0x6075:00 Motor rated current / Motor rated current
0x6076:00 Motor rated torque / Motor rated torque
Status word
Position actual value
Velocity actual value
2.选择添加条目

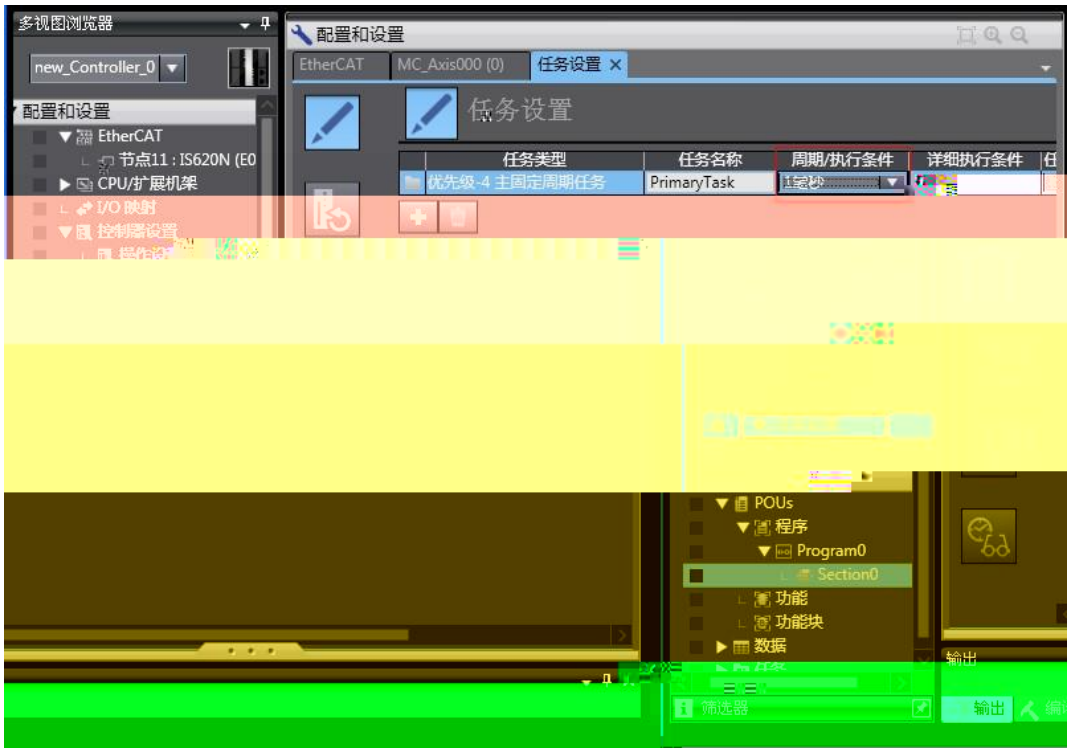

多视图浏览器
new_Controller_0
配置和设置
EtherCAT
CPU/扩展机架
I/O 映射
控制器设置
运动控制设置
轴设置
粘贴(P)
轴设置表(S)

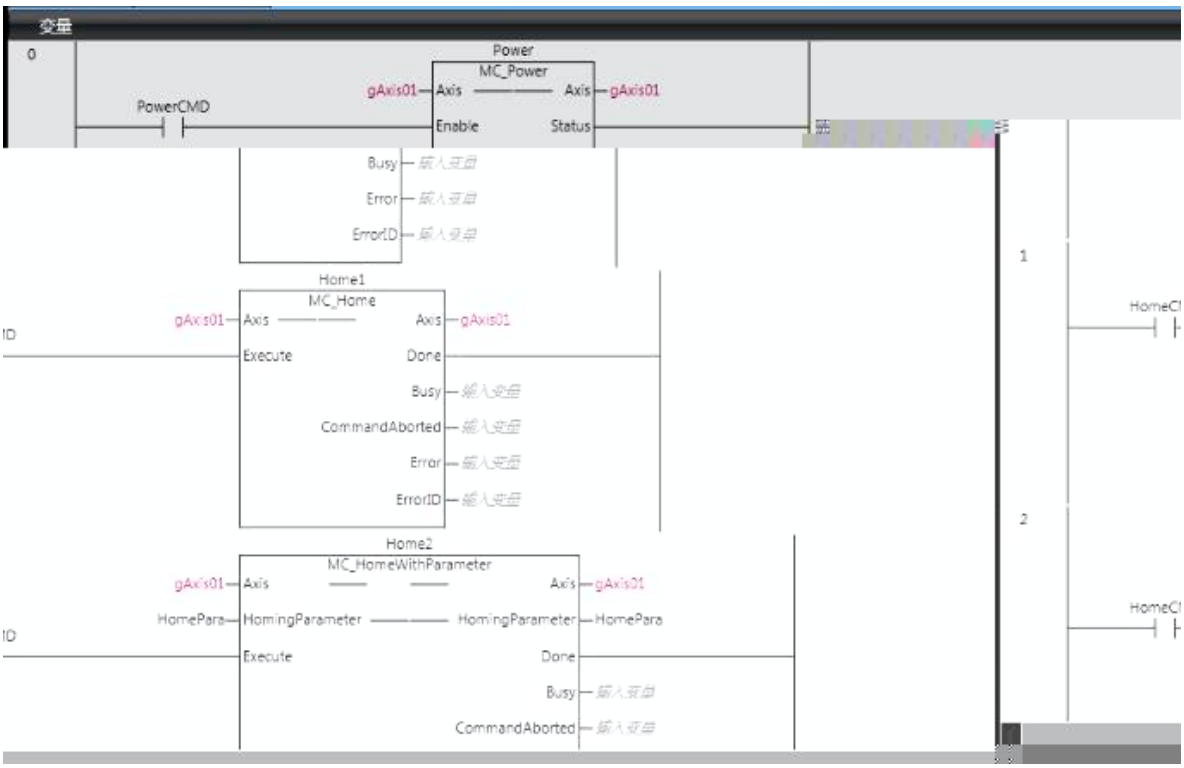

多视图浏览器
new_Controller_0
配置和设置
EtherCAT
CPU/扩展机架
I/O 映射
控制器设置
运动控制设置
轴设置
MC_Axis000 (0)
轴组设置
Cam数据设置
事件设置
任务设置

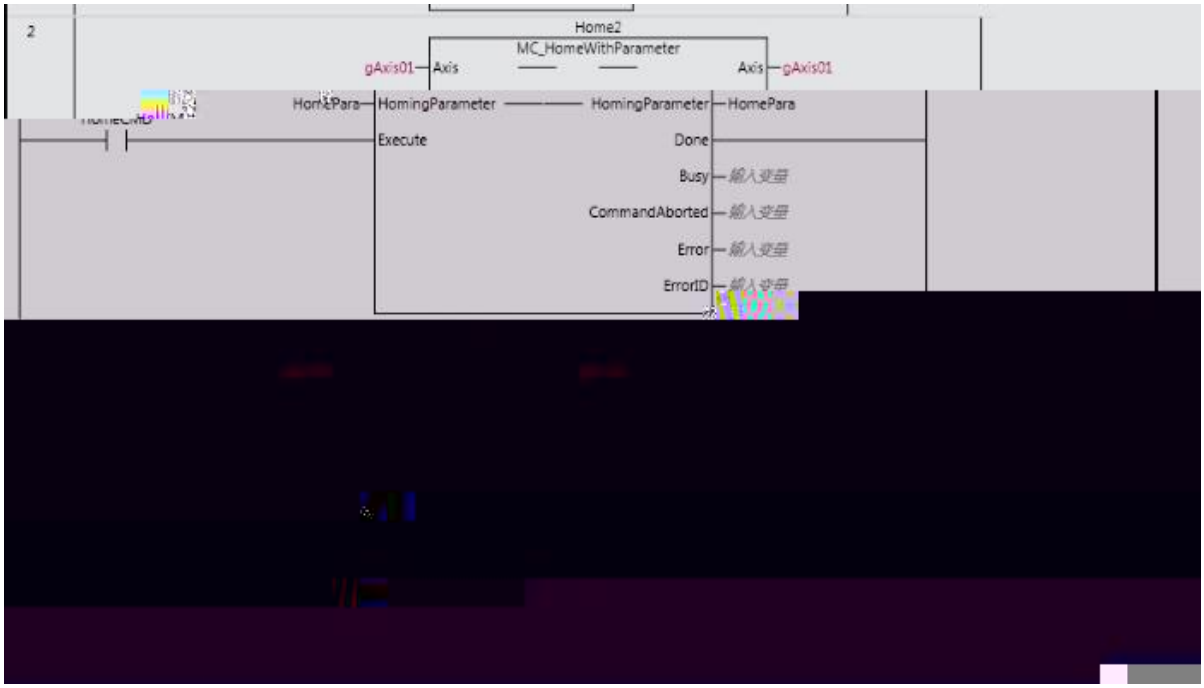

轴基本设置
2.选择使用的 伺服轴
3.选择轴的节点号
1.点击轴
4.选择PDO对象

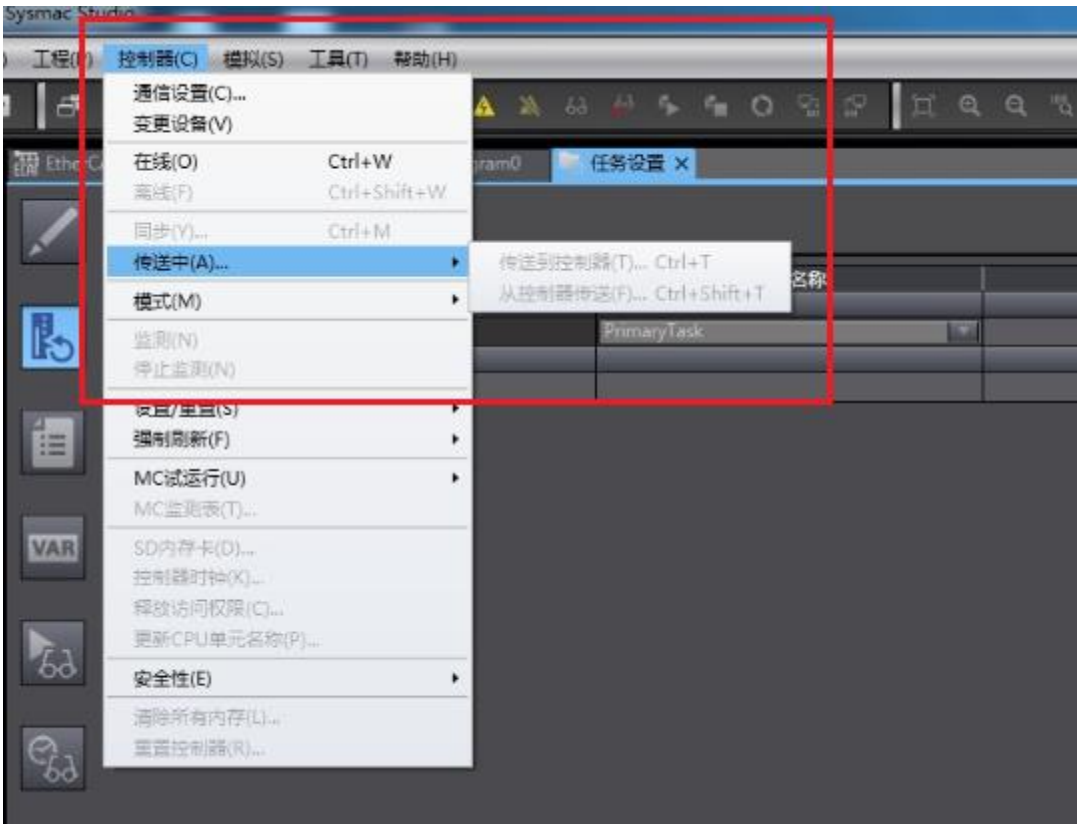

单位换算设置
1.点此进入单位换算
显示单位
不使用减速机设置
使用减速机设置

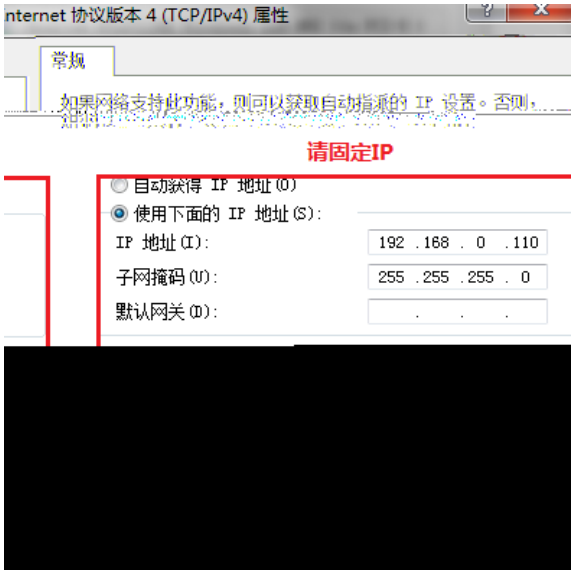

速度/加速度/减速度
最大速度 1000000 脉冲/s
启动速度 0 脉冲/s
最大点进速度 500000 脉冲/s
最大加速度 0 脉冲/s^2
最大减速度 0 脉冲/s^2
加速度/减速度超出 使用急加速/减速(混合变为缓冲)
换向操作选择 减速停止
速度警告值
加速度警告值
减速度警告值
扭矩
正扭矩警告值 0 %
负扭矩警告值
监测

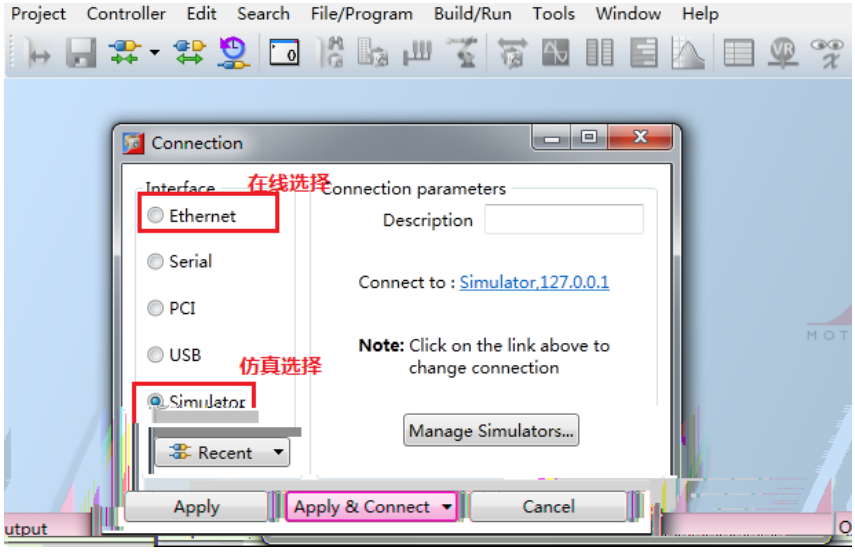

多视图浏览器
new_Controller_0
配置和设置
EtherCAT
节点11 : IS620N (E0
CPU/扩展机架
I/O 映射
控制器设置
配置和设置
EtherCAT
MC_Axis000 (0)
任务设置
任务设置
任务类型
任务名称
周期/执行条件
详细执行条件
优先级-4 主固定周期任务
PrimaryTask
1毫秒
POUs
程序
Program0
Section0
功能
功能块
数据
输出
筛选器
输出

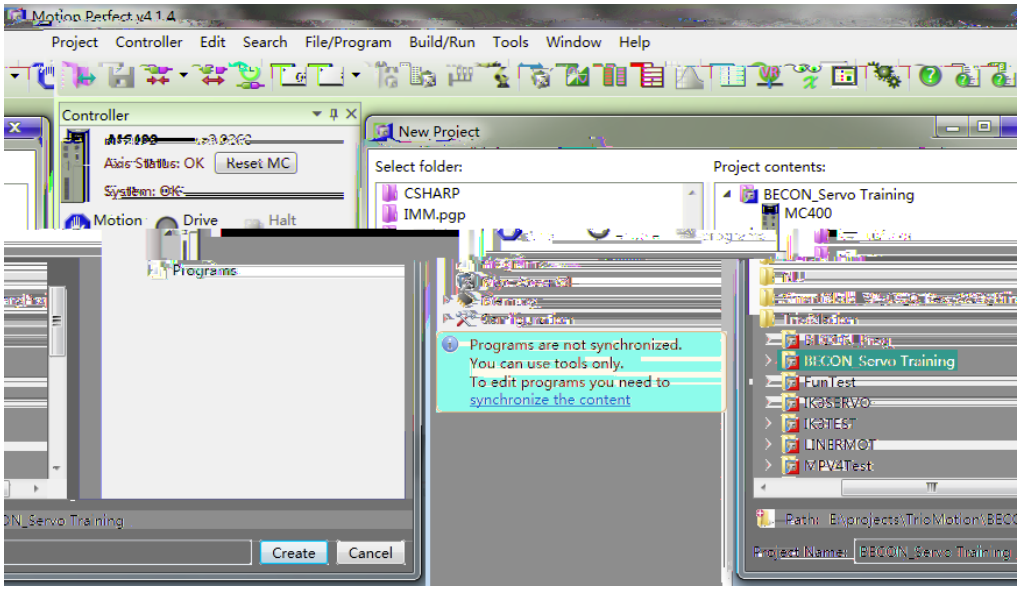

变量
0
Power
MC_Power
gAxis01
Axis
Axis
gAxis01
PowerCMD
Enable
Status
Busy
Error
ErrorID
Home1
MC_Home
gAxis01
Axis
Axis
gAxis01
ID
Execute
Done
Busy
CommandAborted
Error
ErrorID
Home2
MC_HomeWithParameter
gAxis01
Axis
Axis
gAxis01
HomePara
HomingParameter
HomingParameter
HomePara
ID
Execute
Done
Busy
CommandAborted
1
2


2
Home2
MC_HomeWithParameter
gAxis01
Axis
Axis
gAxis01
HomingParameter
HomingParameter
HomePara
Execute
Done
Busy
CommandAborted
Error
ErrorID

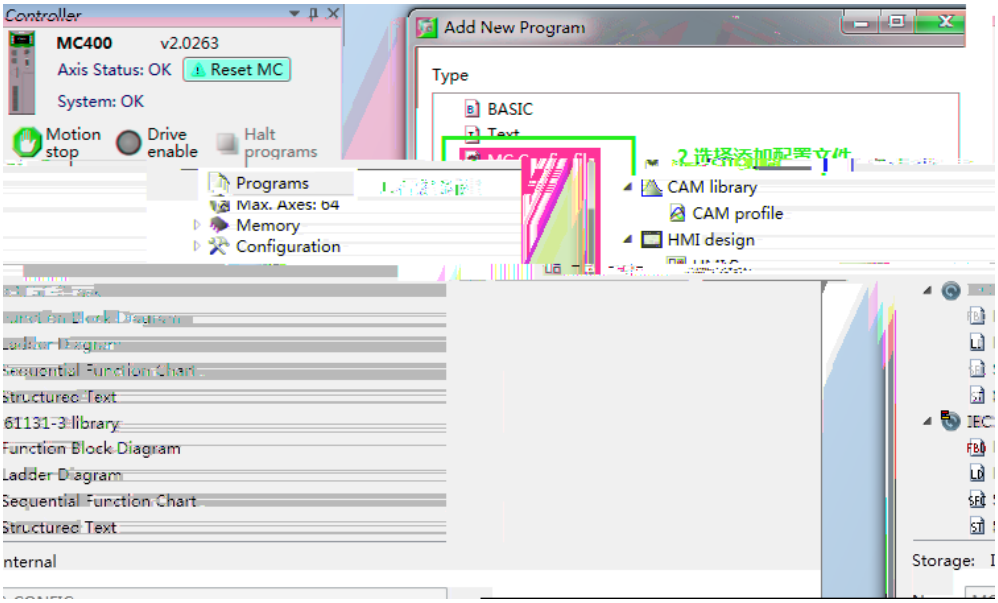

工程(P)
控制器(C)
模拟(S)
工具(T)
帮助(H)
通信设置(C)...
变更设备(V)
在线(O) Ctrl+W
离线(F) Ctrl+Shift+W
同步(Y)... Ctrl+M
传送中(A)...
模式(M)
监测(N)
停止监测(N)
强制刷新(F)
MC试运行(U)
MC监测表(T)...
SD内存卡(D)...
控制器时钟(K)...
释放访问权限(C)...
更新CPU单元名称(P)...
安全性(E)
清除所有内存(L)...
重置控制器(R)...
传送到控制器(T)... Ctrl+T
从控制器传送(F)... Ctrl+Shift+T
任务设置
PrimaryTask
VAR

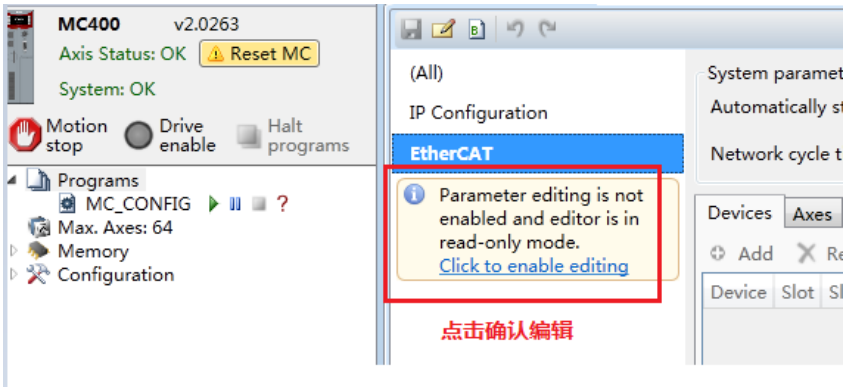

nternet 协议版本 4 (TCP/IPv4) 属性
常规
如果网络支持此功能，则可以获取自动指派的 IP 设置。否则，
请固定IP
自动获得 IP 地址(O)
使用下面的 IP 地址(S):
IP 地址(I):
192 .168 . 0 .110
子网掩码(U):
255 .255 .255 . 0
默认网关(D):

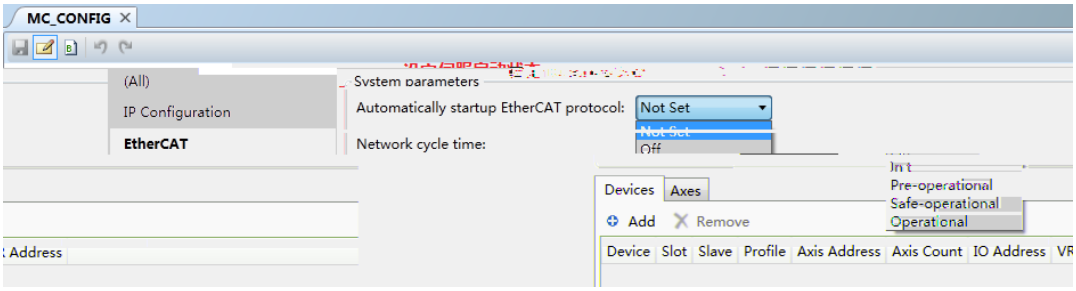

Project Controller Edit Search File/Program Build/Run Tools Window Help
Connection
Interface
在线选择
Ethernet
Serial
PCI
USB
仿真选择
Simulator
Recent
Connection parameters
Description
Connect to : Simulator,127.0.0.1
Note: Click on the link above to change connection
Manage Simulators...
Apply
Apply & Connect
Cancel

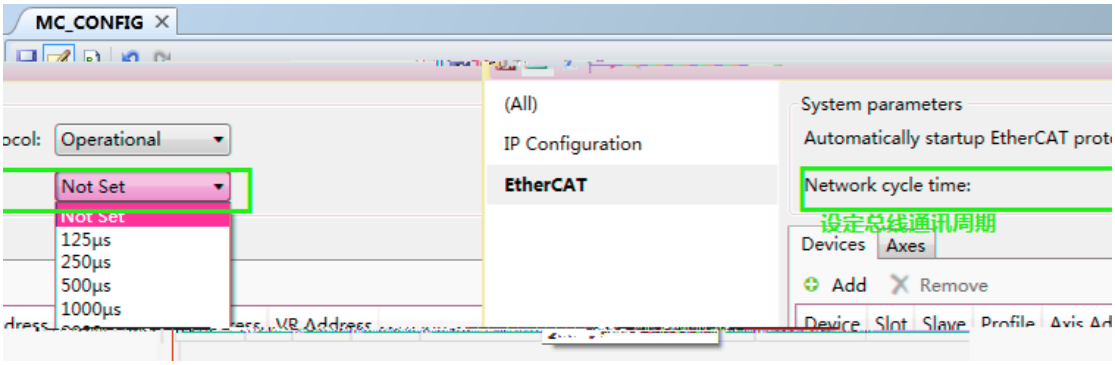

Motion Perfect v4.1.4
Project Controller Edit Search File/Program Build/Run Tools Window Help
Controller
Axis Status: OK
Reset MC
System: OK
Motion
Drive
Halt
Programs
New Project
Select folder:
CSHARP
IMM.pgp
Project contents:
BECON_Servo Training
MC400
Programs are not synchronized.
You can use tools only.
To edit programs you need to
synchronize the content
BECON_Servo Training
FunTest
LINEARMOT
MPV4Test
Create
Cancel

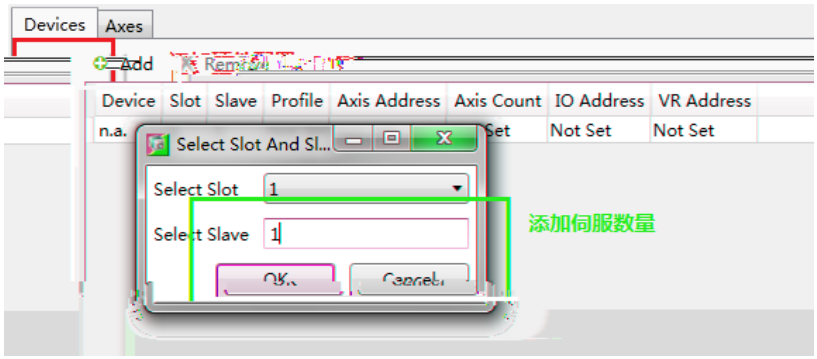
→

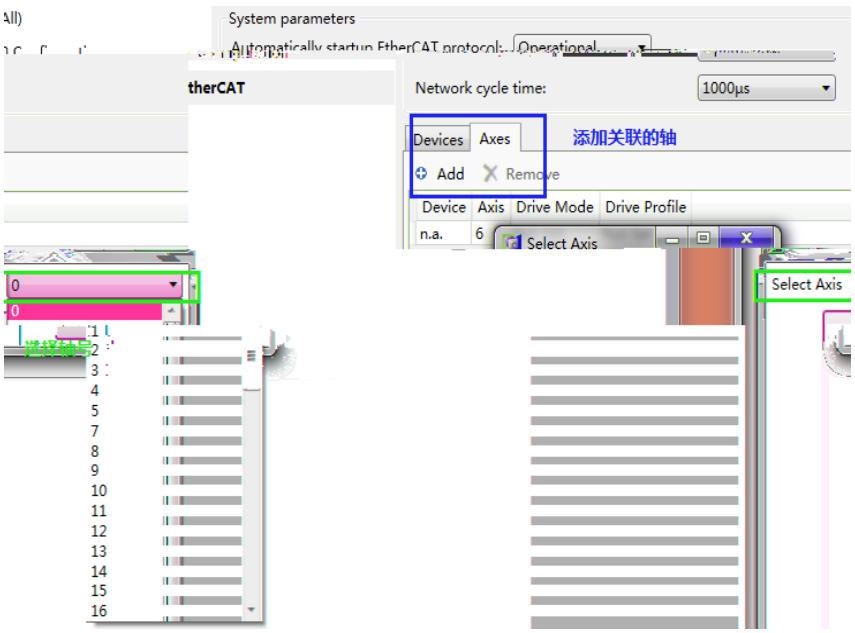

Controller
MC400
v2.0263
Axis Status: OK
Reset MC
System: OK
Motion stop
Drive enable
Halt programs
Programs
Max. Axes: 64
Memory
Configuration
Add New Program
Type
BASIC
CAM library
CAM profile
HMI design
61131-3 library
Function Block Diagram
Ladder Diagram
Sequential Function Chart
Structured Text
Storage:

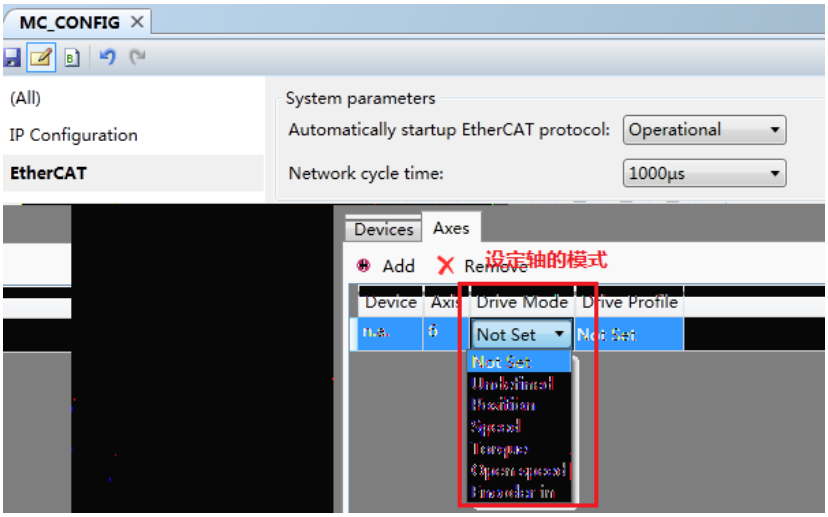

MC400
v2.0263
Axis Status: OK
Reset MC
System: OK
Motion stop
Drive enable
Halt programs
Programs
MC_CONFIG
Max. Axes: 64
Memory
Configuration
(All)
IP Configuration
EtherCAT
Parameter editing is not enabled and editor is in read-only mode.
Click to enable editing
System paramet
Automatically s
Network cycle t
Devices
Axes
Add
Device
Slot
点击确认编辑


MC_CONFIG
(All)
IP Configuration
EtherCAT
Automatically startup EtherCAT protocol:
Not Set
Network cycle time:
Devices
Axes
Add
Remove
Device
Slot
Slave
Profile
Axis Address
Axis Count
IO Address
Pre-operational
Safe-operational
Operational


MC_CONFIG
Operational
Not Set
125µs
250µs
500µs
1000µs
(All)
IP Configuration
EtherCAT
System parameters
Network cycle time:
设定总线通讯周期
Devices
Axes
Add
Remove


Devices
Axes
Add
Device
Slot
Slave
Profile
Axis Address
Axis Count
IO Address
VR Address
n.a.
Not Set
Not Set
Select Slot And Sl...
Select Slot
1
Select Slave
1
OK
Cancel
添加伺服数量


System parameters
Network cycle time:
1000µs
Devices
Axes
添加关联的轴
Add
Remove
Device
Axis
Drive Mode
Drive Profile
n.a.
Select Axis
0
1
2
3
4
5
7
8
9
10
11
12
13
14
15
16


MC_CONFIG
(All)
IP Configuration
EtherCAT
System parameters
Automatically startup EtherCAT protocol:
Operational
Network cycle time:
1000µs
Devices
Axes
Add
Remove
设定轴的模式
Device
Drive Mode
Drive Profile
Not Set

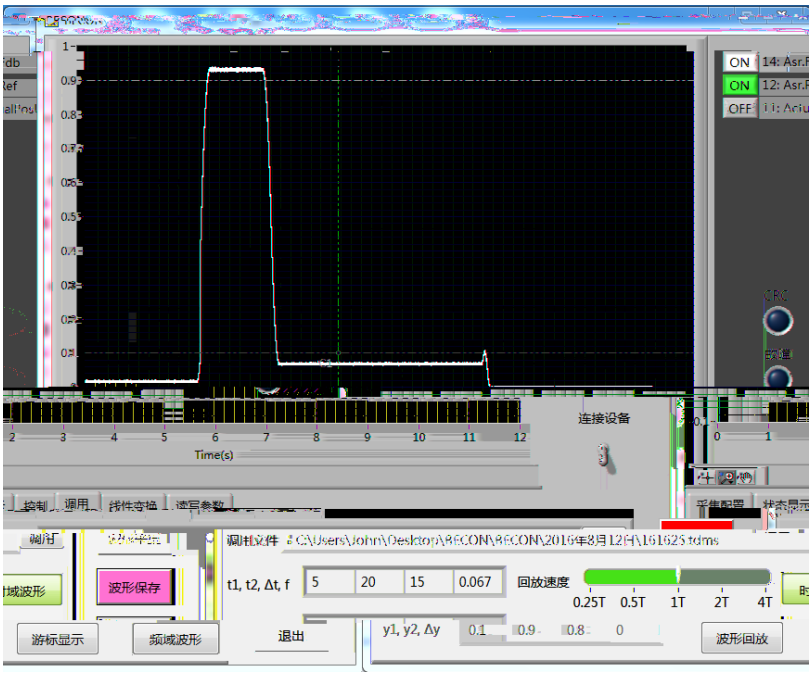
→

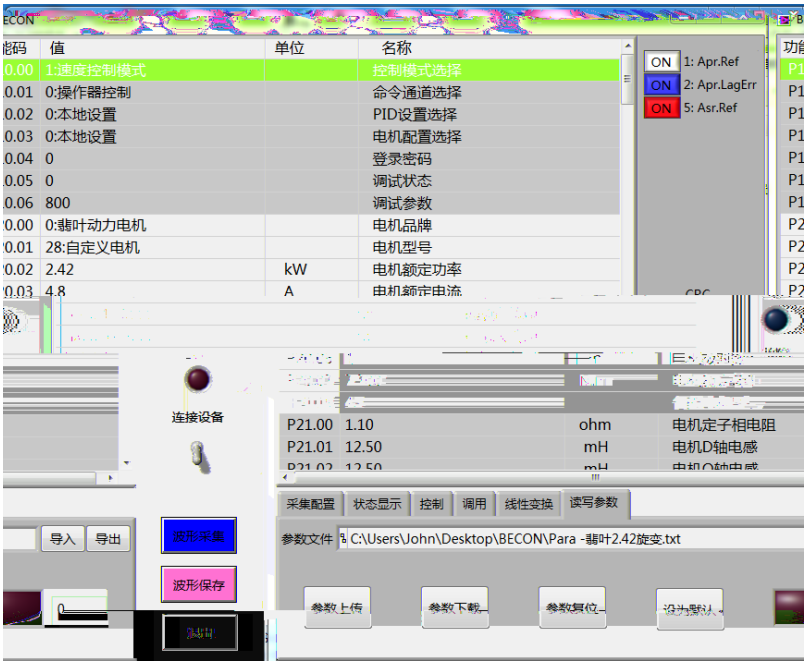
12

12.1

12.2 BECON-Monitor

退出


ON
ON
OFF
连接设备
Time(s)
波形保存
t1, t2, Δt, f
5
20
15
0.067
回放速度
0.25T
0.5T
1T
2T
4T
游标显示
频域波形
退出
y1, y2, Δy
波形回放


码
值
单位
名称
1:速度控制模式
控制模式选择
0:操作器控制
命令通道选择
0:本地设置
PID设置选择
0:本地设置
电机配置选择
0
登录密码
0
调试状态
800
调试参数
0:翡叶动力电机
电机品牌
28:自定义电机
电机型号
2.42
kW
电机额定功率
4.8
A
ON
1: Apr.Ref
ON
2: Apr.LagErr
ON
5: Asr.Ref
连接设备
P21.00
1.10
ohm
电机定子相电阻
P21.01
12.50
mH
电机D轴电感
采集配置
状态显示
控制
调用
线性变换
读写参数
参数文件
C:\Users\John\Desktop\BECON\Para -翡叶2.42旋变.txt
导入
导出
波形采集
波形保存
参数上传
参数下载
参数复位

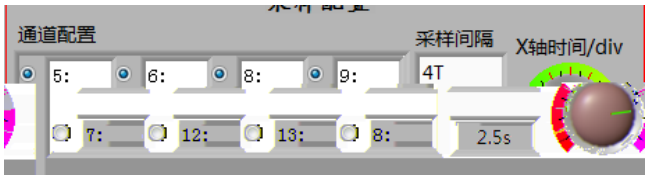
12.3


通讯配置
通讯口
COM7
地址
1
波特率
921600


连接设备


CRC


CRC


通道配置
采样间隔
X轴时间/div
5:
6:
8:
9:
4T
7:
12:
13:
8:
2.5s

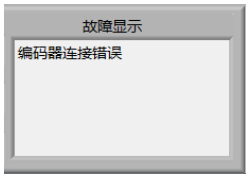

ON 5: Apr.LagErr
ON 6: Apr.MultiTu
ON 8: TargetPosIn
CRC
故障
连接状态
波形采集
波形保存


2017年5月2日 2017/5/26 11:36
data 2016/12/23 16:39
BECON.aliases 2016/12/23 16:39
BECON.exe 2016/12/23 16:39
BECON.ini 2016/12/23 16:39
BECON.log 2016/12/23 16:39
BECON.tlb 2016/12/23 16:39

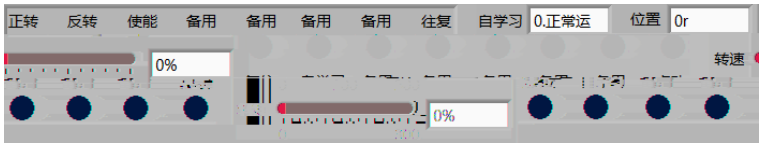

名称 修改日期 类型
145527.tdms 2017/5/2 14:55 TDMS
145527.tdms_index 2017/5/2 14:55 TDMS_I

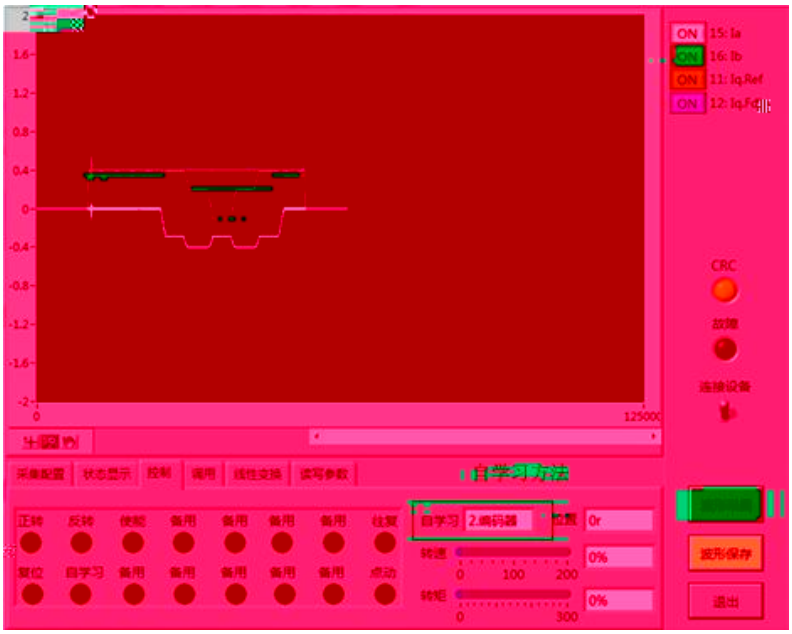
12.4


采集配置
状态显示
控制
调用
线性变换
读写参数
有功功率
0.00 kW
给定转速
0.0 rpm
输出电流
0.0 A
Ai0输入
-0.02 V
伺服温度
30.9 ℃
视在功率
0.00 kVA
电机转速
0.0 rpm
输出电压
0.0 V
Ai1输入
-0.03 V
电机温度
32.4 ℃
功率因数
0.000
节点号
1
母线电压
0 V
电机型号
0
PowerID
0.5



12.5




ON 15: Ia
ON 16: Ib
ON 11: Iq.Ref
ON 12: Iq.Fdb
CRC
故障
连接设备
采集配置
状态显示
控制
调用
线性变换
读写参数
自学习方法
正转
反转
使能
备用
备用
备用
备用
往复
复位
自学习
备用
备用
备用
备用
备用
点动
自学习
2.编码器
位置
0r
转速
0%
转矩
0%
波形保存
退出

12.6

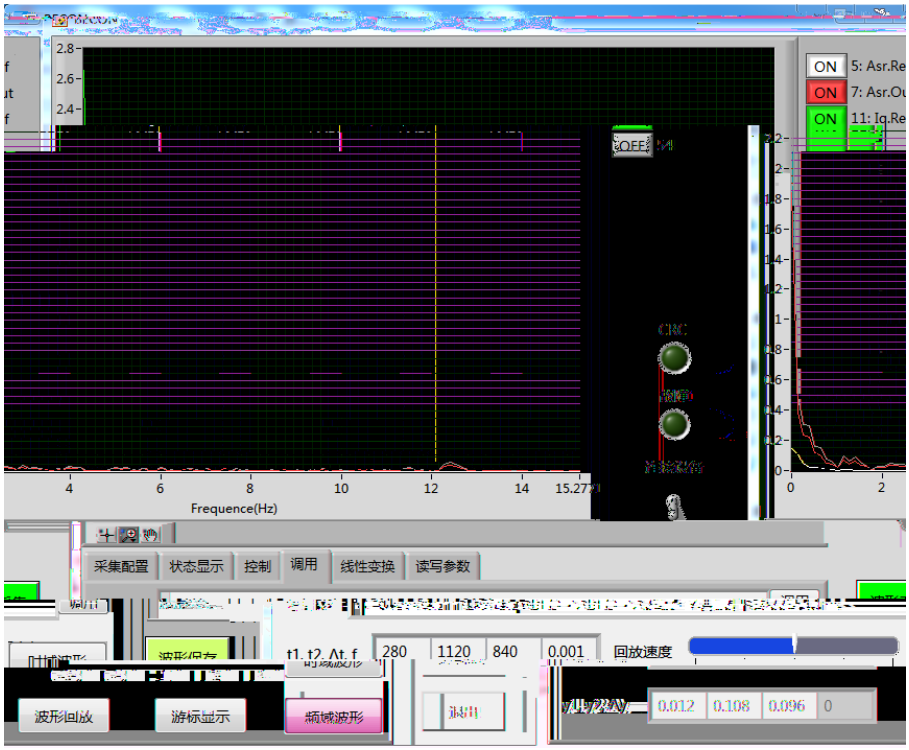
波形回放

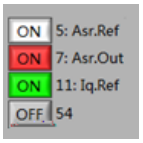
回放速度

0.25T 0.5T 1T 2T 4T

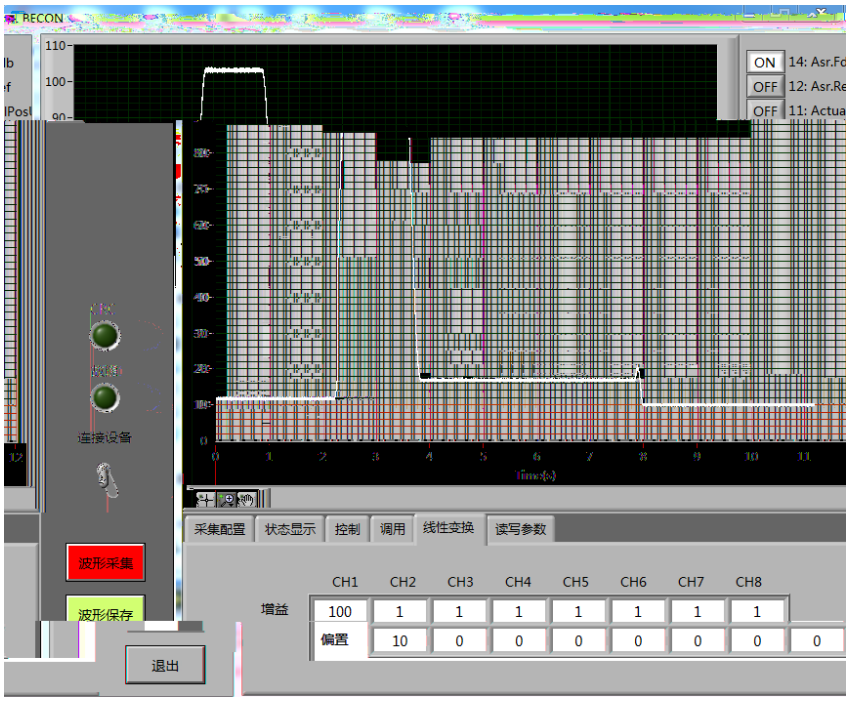
频域波形

时域波形





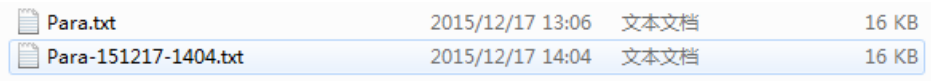
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
增益	1	1	1	1	1	1	1	1
偏置	0	0	0	0	0	0	0	0



12.7

导入


导出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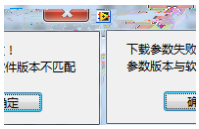
Para-151217-1404.txt 2015/12/17 14:04 文本文档 16 KB


参数上传
参数下载
参数复位
设为默认
28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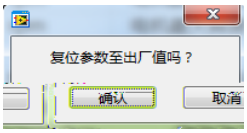
12.7.5


复位参数至出厂值吗？
确认
取消

12.8

