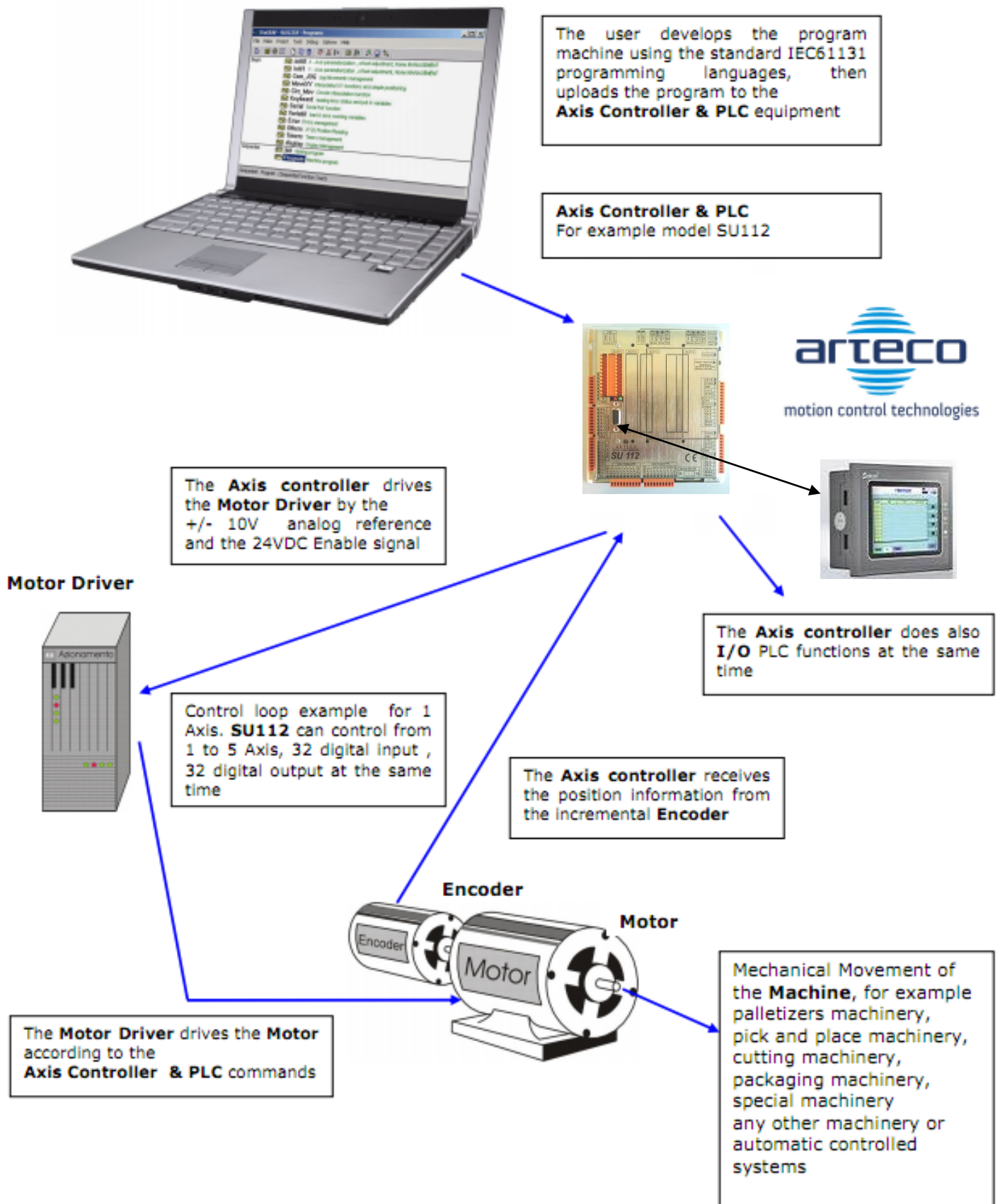# ARTECO MOTION TECH – Axis Controllers & PLCs for Automatic Machinery control.

The Axis **Controller with included PLC** is an advanced control equipment able to fully control all axis and I/O of an automatic machine. All of Arteco Motion Tech controllers can control the movement to the needed position of mechanical axis moved by electric motors.

The user develops the program machine using the standard IEC61131 programming languages, then uploads the program to the **Axis Controller & PLC** equipment

Axis Controller & PLC
For example model SU112

arteco
motion control technologies

The **Axis controller** drives the **Motor Driver** by the +/- 10V analog reference and the 24VDC Enable signal

Motor Driver

The **Axis controller** does also **I/O** PLC functions at the same time

Control loop example for 1 Axis. **SU112** can control from 1 to 5 Axis, 32 digital input , 32 digital output at the same time

The **Axis controller** receives the position information from the incremental **Encoder**

Encoder

Motor

The **Motor Driver** drives the **Motor** according to the **Axis Controller & PLC** commands

Mechanical Movement of the **Machine**, for example palletizers machinery, pick and place machinery, cutting machinery, packaging machinery, special machinery any other machinery or automatic controlled systems

General description:

Arteco Italy manufactures Axis Controllers with standard PLC in only one device. It means that the user can install only one device to control one or more axis and digital input and output.
This solution makes it possible to save time and money.

The above indicated example shows SU112C (C stands for closed version of SU112) to control one axis system.
SU112C is provided without built-in HMI. The user can connect SU112C to any HMI simply using a RS232 OR RS422/485 cable (the supported protocol is the STANDARD Modbus RTU) .

The user can develope the HMI program using the free development HMI program tool. It provides rapid development HMI pages. Each object (text box, button, indicator, progress bar etc.) will have its own modbus RTU address and it will be connected to the SU112 declared Modbus RTU variables automatically.

The user can develop the Axis controller & PLC program using the standard IEC61131-3 programming PLC Tool. It provides ALL the five IEC-61131-3 standard programming languages. The Motion Control Functions can be used in the same PLC program. The user does not have to learn any new programming language, only he have to know how the Motion Control Functions work.

Hardware connections:

SU112 (or any other Arteco Axis controllers with PLC included) can be connected to HMIs using the following ways:
RS232
RS422
RS485

SU112 (or any other Arteco Axis controllers with PLC included) can be connected to the axis system using the following way:

To receive the position feedback from the Machine: by Incremental Encoder Line driver or push pull 5V

To provide speed reference to the SERVODRIVER: by standard analog +/- 10V differential
To provide ENABLE signal to the SERVODRIVER: by standard 24VDC pnp output.

All the Axis Controllers with PLC included made by Arteco provide also the Emg input (Emergency input). It means that the machine emergency can be connected also to the Arteco Controller making it possible to immediately stop all the movements and resetting the outputs if an emergency state occurs.

## Configuration:

Available models of SU112C:

Model SU112C	Axis	DI Pnp 0-24V	DO Pnp 0-24V	Analog in 0-10V 10bit	Serial Port RS232/422 /485	CanBUS Port	Expandable with DSP
SU112C-XY-16I-16O	2	16	16	2	1	-	yes
SU112C-XY-24I-24O-SC	2	24	24	2	2	1	yes
SU112C-XY-32I-32O-SC	2	32	32	2	2	1	yes
SU112C-XY-40I-40O-SC	2	40	40	2	2	1	yes
SU112C-XY-48I-48O-SC	2	48	48	2	2	1	yes
SU112C-XYZ-16I-16O	3	16	16	2	1	-	yes
SU112C-XYZ-24I-24O-SC	3	24	24	2	2	1	yes
SU112C-XYZ-32I-32O-SC	3	32	32	2	2	1	yes
SU112C-XYZ-40I-40O-SC	3	40	40	2	2	1	yes
SU112C-XYZU-16I-16O	4	16	16	2	1	-	yes
SU112C-XYZU-24I-24O-SC	4	24	24	2	2	1	yes
SU112C-XYZU-32I-32O-SC	4	32	32	2	2	1	yes
SU112C-XYZU-40I-40O-SC	4	40	40	2	2	1	yes
SU112C-XYZUV-16I-16O	5	16	16	2	1	-	yes
SU112C-XYZUV-24I-24O-SC	5	24	24	2	2	1	
SU112C-XYZUV-32I-32O-SC	5	32	32	2	2	1	

Available models of SU112 (with 40 membrane Keys + LCD 20 characters x 8 lines)

Model SU112	Axis	DI Pnp 0-24V	DO Pnp 0-24V	Analog in 0-10V 10bit	Serial Port RS232/422 /485	CanBUS Port	Expandable with DSP
SU112C-XY-16I-16O	2	16	16	2	1	-	yes
SU112C-XY-24I-24O-SC	2	24	24	2	2	1	yes
SU112C-XY-32I-32O-SC	2	32	32	2	2	1	yes
SU112C-XY-40I-40O-SC	2	40	40	2	2	1	yes
SU112C-XY-48I-48O-SC	2	48	48	2	2	1	yes
SU112C-XYZ-16I-16O	3	16	16	2	1	-	yes
SU112C-XYZ-24I-24O-SC	3	24	24	2	2	1	yes
SU112C-XYZ-32I-32O-SC	3	32	32	2	2	1	yes
SU112C-XYZ-40I-40O-SC	3	40	40	2	2	1	yes
SU112C-XYZU-16I-16O	4	16	16	2	1	-	yes
SU112C-XYZU-24I-24O-SC	4	24	24	2	2	1	yes
SU112C-XYZU-32I-32O-SC	4	32	32	2	2	1	yes
SU112C-XYZU-40I-40O-SC	4	40	40	2	2	1	yes
SU112C-XYZUV-16I-16O	5	16	16	2	1	-	yes
SU112C-XYZUV-24I-24O-SC	5	24	24	2	2	1	
SU112C-XYZUV-32I-32O-SC	5	32	32	2	2	1	

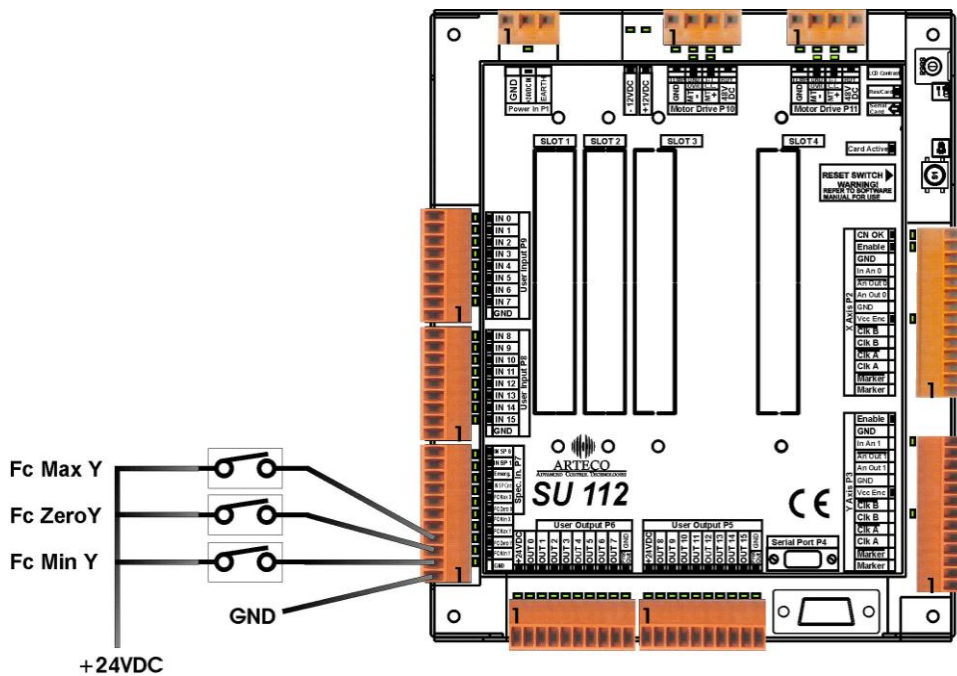# Examples of hardware connecting:
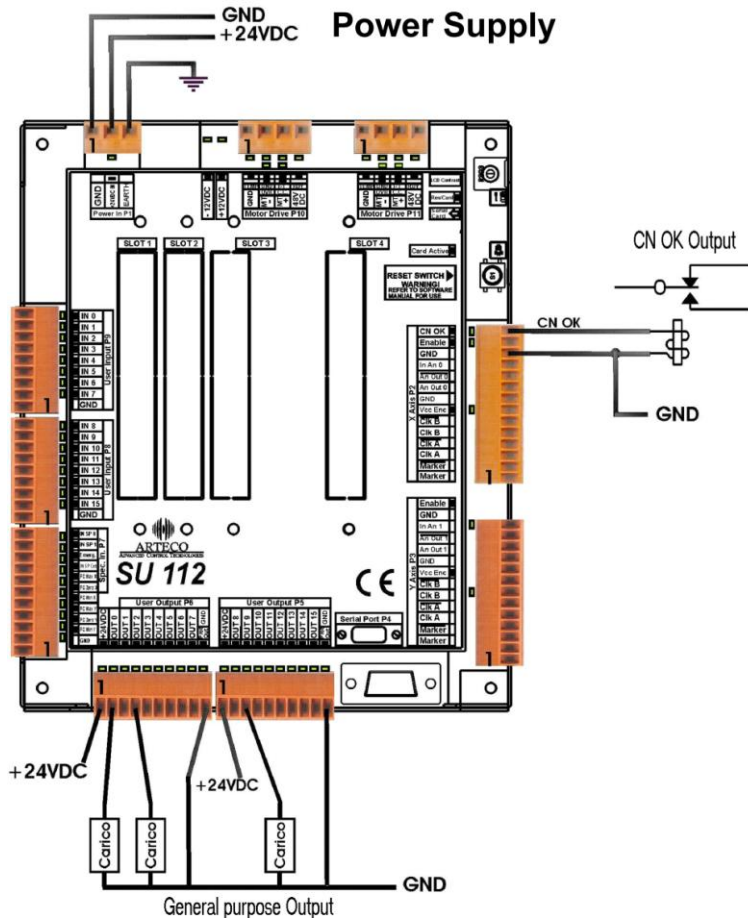
Two Axis Connecting:
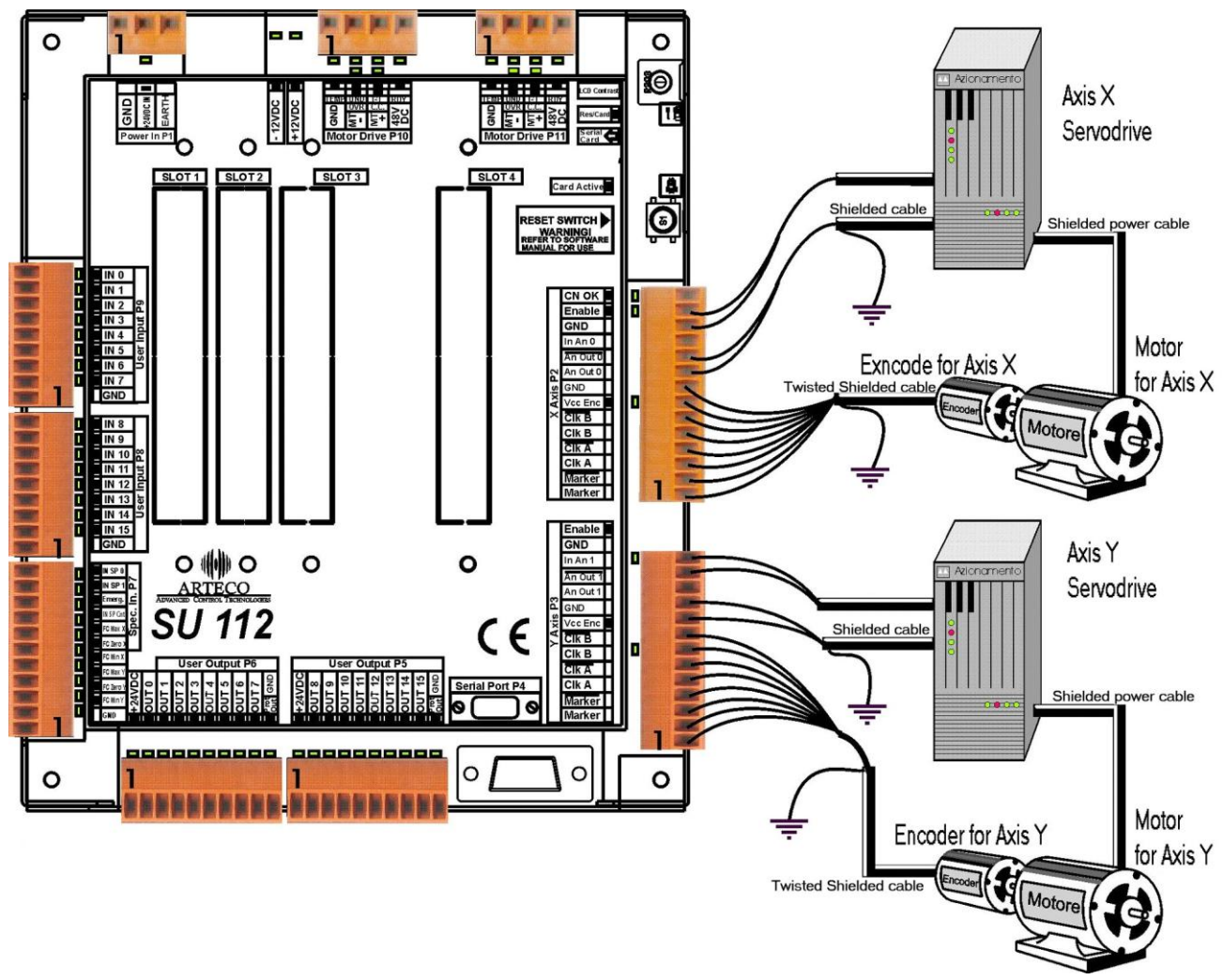
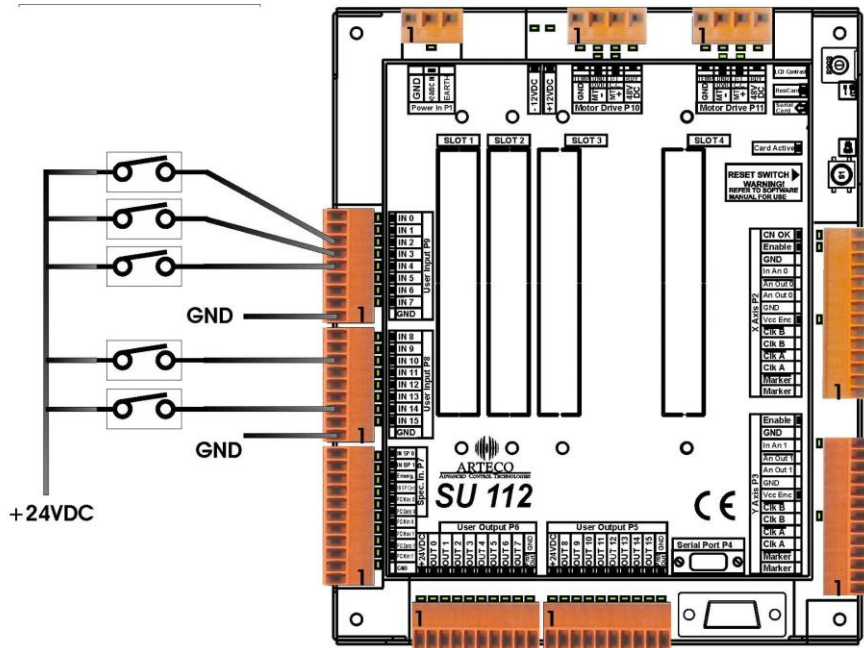## Two Axis Limit Sensors Connecting Axis X :
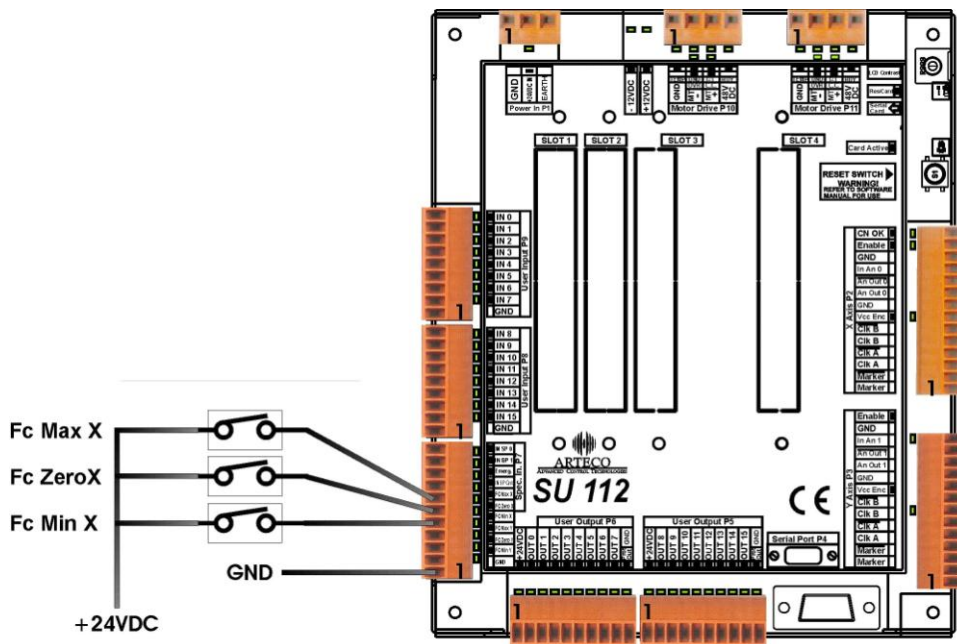
Two Axis Limit Sensors Connecting Axis Y :

General purpose Output connecting:

General purpose input connecting:

Example of application:

Brushless or DC motors

Brushless or DC DRIVERS driven by
Analog +/- 10V. Receiving Incremental encoder position feedback

HMI

-RS232/422--

SU112C

---CANBUS--- 2 Axis CAN ---CANBUS--- 2 Axis CAN -- CANBUS-- Other I/O and/or Axis Expansions

Modbus RTU

I/O and Analog Modbus RTU Expansions

INTELLIGENT Brushless DRIVERS
Including Built-in Motion Control

CANBUS

Brushless or DC motors