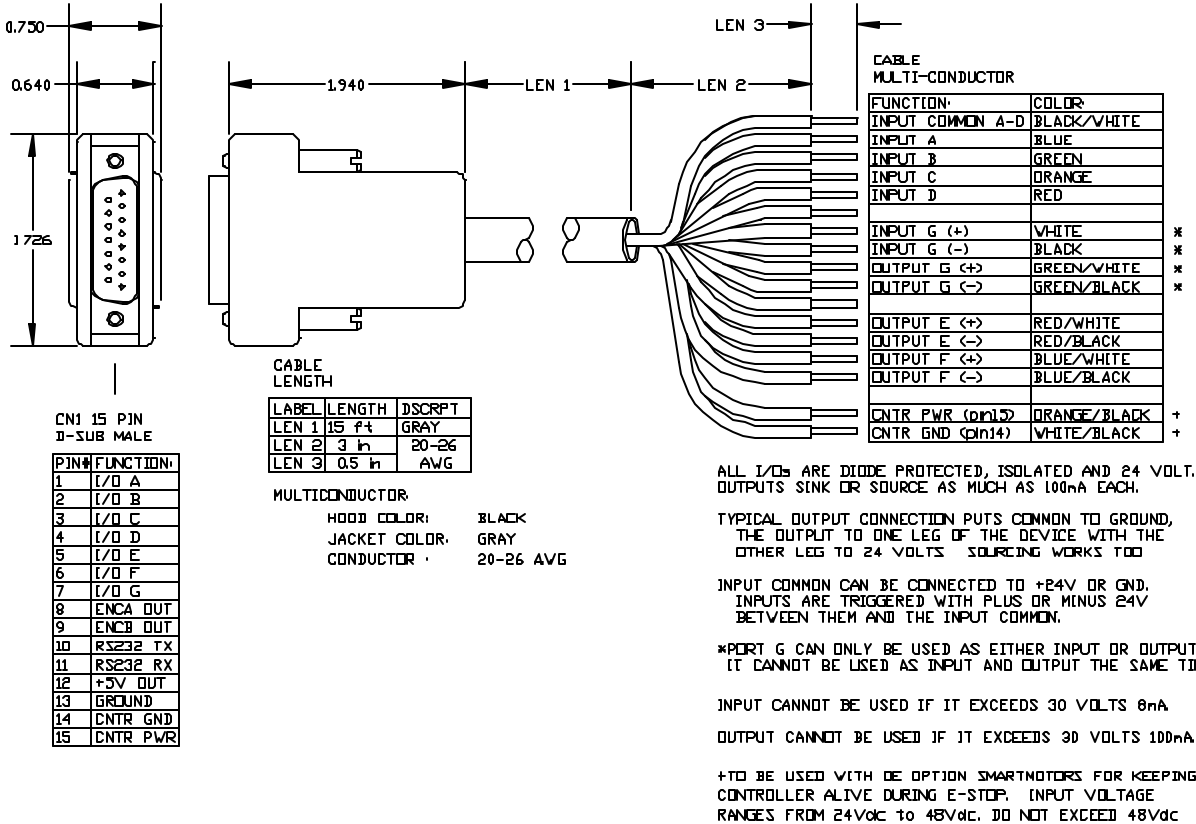


CLBIO4352DEx¹ USER'S MANUAL

Overview

The CLBIO4352DEx¹ is a cable with a DB15 connector that converts 5VDC SmartMotor I/O to 24VDC I/O. The user has the option of using the CLBIO4352DE cable with four digital inputs and three digital outputs or five digital inputs and two outputs and brings 24Vdc or 48Vdc to the SmartMotor's control for SmartMotor with the DE option. This will allow user to take away power to the motor but keep power to the controller alive. This cable connects directly into the SmartMotor's DB 15 I/O connector (CN2) on the SM23xxD and SM34xxD series.



Inputs A to D can be set to either all sourcing or sinking inputs. Port G input is independent from input A to D. Outputs E, F, and G are wired independently so they can either be sourcing or sinking.

RATING:

Input

min. voltage	24 VDC
max. voltage	30 VDC
min. current	5 mA
max. current	8 mA

Output

max. voltage	30 Vdc
max. current	100 mA

¹ If x is H, cable is 5m long
If x is -10M, cable is 10m long

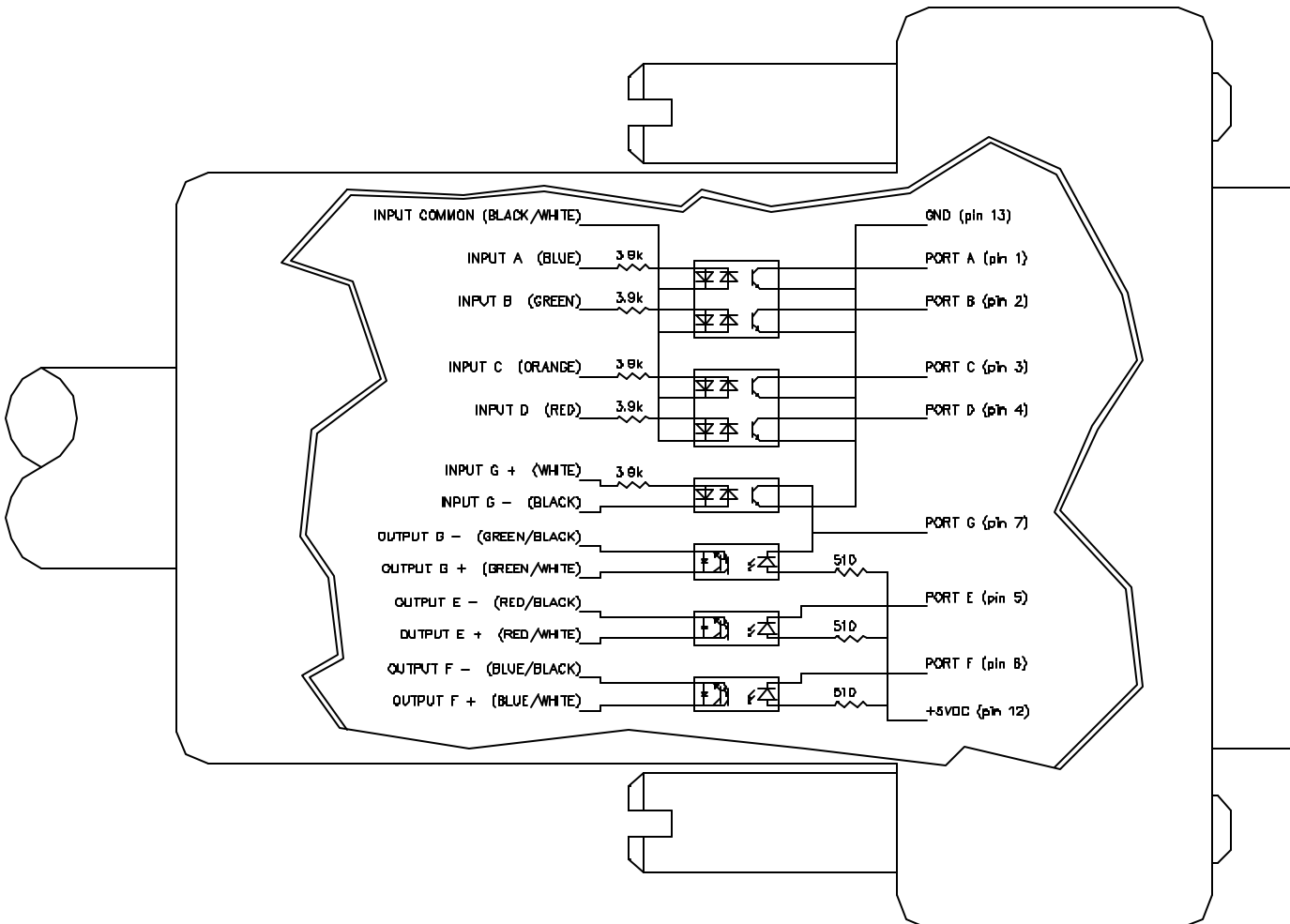
Damage may occur if these maximum ratings are exceeded.

SmartMotor Interface

The CBLIO4352DE cable uses the SmartMotor's I/O pins as listed:

PIN	SIGNAL	DESCRIPTION
1	input A	Digital input A / Encoder input A / Step input (input frequency 50kHz)
2	input B	Digital input B / Encoder input B / direction input (input frequency 50kHz)
3	input C	Digital input C / Positive Limit
4	input D	Digital input D / Negative Limit
5	output E	Digital output E
6	output F	Digital output F
7	input/output G	Digital input G / Digital output G (can only use either input or output)
12	+5Vdc	+5Vdc output
13	GND	Signal Ground
14	CNTR GND	for SmartMotor with DE option, Control GND
15	CNTR PWR	for SmartMotor with DE option, Control POWER

Schematic



DE Control Power Input Rating

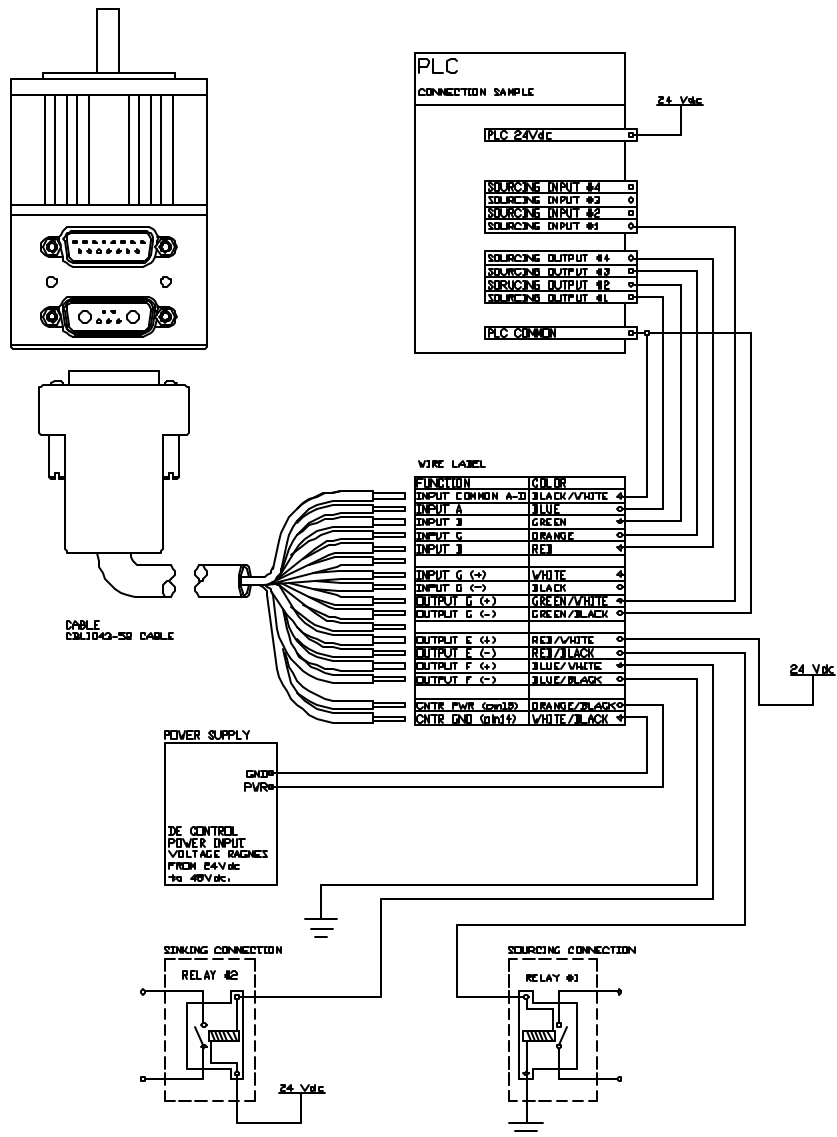
Input

min. voltage	24VDC
max. voltage	48VDC
min. current	20mA
max. current	80mA

Damage may occur if these maximum ratings are exceeded.

Application

The CBLIO4352DE cable is used to interface the SmartMotor with a PLC and some coil relay. A sample application wiring is shown below:




```

C0                                'Label for subroutine C0
UE=0                              'output high, trajectory started
G                                 'start trajectory (motion)
TWAIT                             'wait until trajectory ends (motion stopped)
UE=1                              'reset signal to RESET MOTION (low) signal
to PLC
IF Be                              'checking excessive position error bit
PRINT("excessive position error occured",#13) 'print to terminal window
UF=0                              'set fault signal (high)
ENDIF
IF Bp                              'checking RT limit bit
PRINT("RT Limit reached",#13)      'print to terminal window
UF=0                              'set fault signal (high)
ENDIF
IF Bm                              'checking LT limit bit
PRINT("LT Limit reached",#13)      'print to terminal window
UF=0                              'set fault signal (high)
ENDIF
IF Bh                              'checking over temperature bit
PRINT("Over Temperature Occured",#13)'print to terminal window
UF=0                              'set fault signal (high)
ENDIF
RETURN                            'RETURN to main program

```

You probably noticed that the motor is reading the signal low when high signal is being sent to the CBLIO4352DE cable. If you prefer the motor to read a high signal when high signal is being sent to the cable, you can mask the input value by using the following command:

```
a=UAI==0          `this sets a to 1 if UAI is true, which in this case if UAI is 0
                  `      (low)
```

I/O Commands:

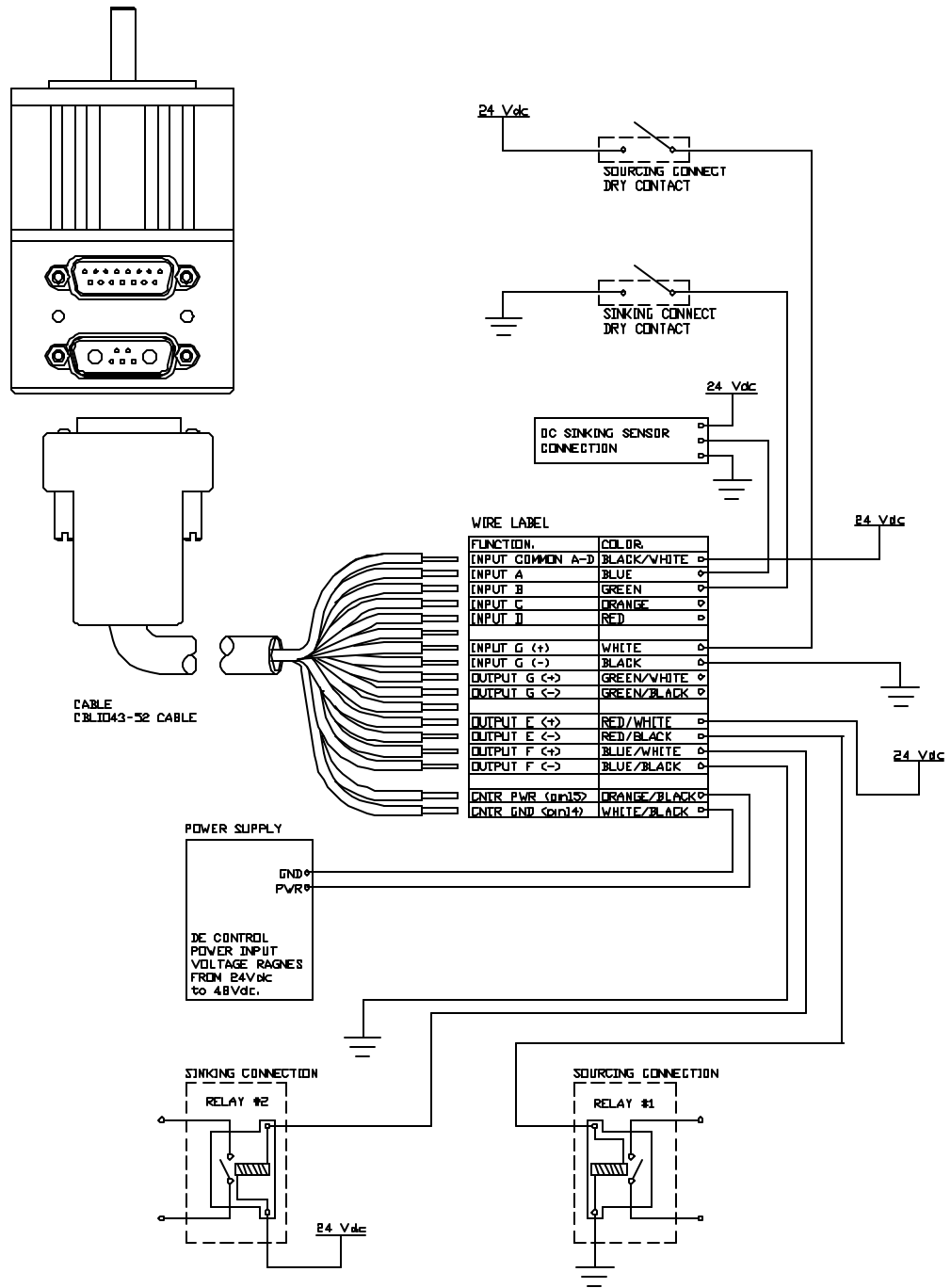
```
UAI      `initialize port A as input
UBI      `initialize port B as input
UCI      `initialize port C as input
UDI      `initialize port D as input
UCP      `initialize port C as Right Limit (Port C is right limit by default)
UDM      `initialize port D as Left Limit (Port D is left limit by default)
UGI      `initialize port G as input (port G can only be used as either
UGO      `initialize port G as outputinput or output)
UG=1     `set output G off (output line open)
UG=1     `set output G on (output line close)
UEO      `initialize port E as output
UE=1     `set output E off (output line open)
UE=0     `set output E on (output line close)
UFO      `initialize port F as output
UF=1     `set output F off (output line open)
UF=0     `set output F on (output line close)

d=UCI    `store the input state value of port C into variable d

IF UAI   `using with IF statement, true => UAI is 1
ENDIF

IF UAI==0 `using with IF statement, true => UAI is 0
ENDIF
```

Sample Wiring Diagram:



For further details about I/O commands and program flows, please refer to the SmartMotor™ Users Guide.