

## GCSA Gray Code 11 Bit Encoder

### Electrical Specifications

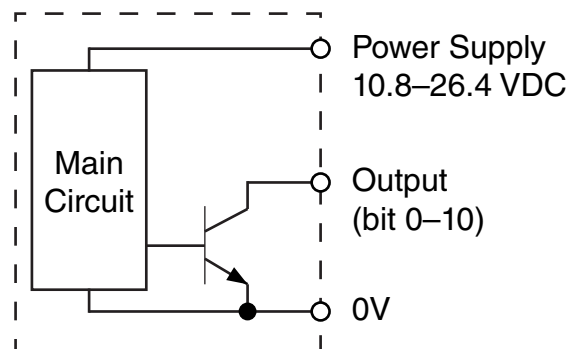
Electrical Specifications		
Power Supply	Operating Voltage *	10.8–26.4 VDC
	Allowable Ripple	3% rms max
	Current Consumption	70mA max per encoder
Output Waveform	Output Code	Gray binary
	Max Response Frequency	20kHz
	Accuracy	0.087 degrees
Output	Rising/Falling Time **	2.0 $\mu$ s max (@ 1k $\Omega$ load resistance)
	Output Configuration	NPN open collector
	Output Logic	Negative logic (active low)
	Sinking Current	32mA max
	Residual Voltage	0.4 V max @ $\leq 16$ mA 1.5 V max @ $> 16$ mA to 32mA
	Load Power Supply Voltage	35VDC max
	Short Circuit Protection	Not protected
* To be supplied by a class II source. ** With a Cable of 2m or less.		

## GCSA Smart Arms

### Wiring Connections

Wire Color	Wiring Connection
Blue	0V
Brown	12/24V
Black	Bit 0 ( $2^0$ )*
Red	Bit 1 ( $2^1$ )*
Orange	Bit 2 ( $2^2$ )*
Yellow	Bit 3 ( $2^3$ )*
Green	Bit 4 ( $2^4$ )*
Purple	Bit 5 ( $2^5$ )*
Gray	Bit 6 ( $2^6$ )*
White	Bit 7 ( $2^7$ )*
Black/White	Bit 8 ( $2^8$ )*
Red/White	Bit 9 ( $2^9$ )*
Orange/White	Bit 10 ( $2^{10}$ )* (MSB)
Shield	GND**

### Output Circuit



\* Numbers in parentheses ( ) are the bits corresponding to binary code.

\*\* Cable shield is not connected to the encoder body;  
the enclosure is grounded through the 0V wire.

