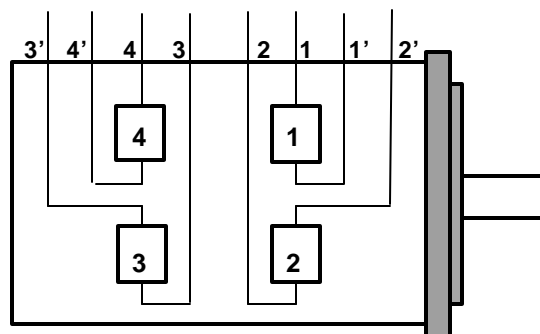
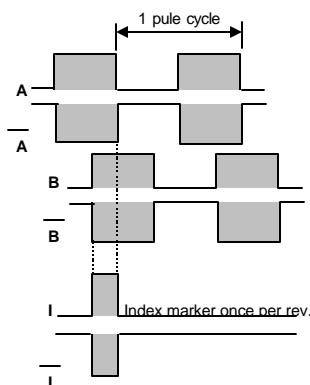
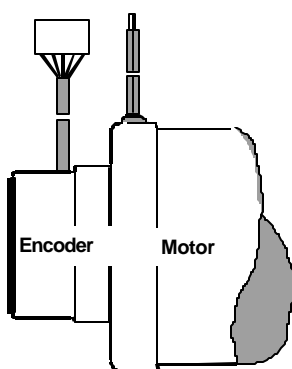


Motor Types	Lead or terminal identification							
Permanent Motor type	1	1'	2'	2	3	3'	4'	4
N82101-- M82101--	Orange	----Red----		Yellow	Brown	----Green----		Black
M82201----	Yellow	----Red----		Orange	Brown	----Green----		Black
ID 32 Series	Grey	Red		Yellow	Yellow	Red		Grey
ID 31--1	Grey	Red	Black	Yellow	Yellow	Black	Red	Grey
ID 31--4	1	-----1'/2'-----		2	3	-----3'/4'-----		4
ID 31--6*	1	-----1'/2'-----		2	3	-----3'/4'-----		4
*Except 9904 112 31206 which is a bi-polar motor and is listed separately below								
ID 35 Series	1	-----1'/2'-----		2	3	-----3'/4'-----		4
L 82401-- 42M100	Yellow	----Red----		Orange	Brown	----Green----		Black
MV 82801--		----Red----		Yellow	Yellow	----Red----		Grey
1415 Series	1	Internal		2	3	Internal		4
Bi-Polar								
ID 31206	1	Internal		2	3	Internal		4
Linear Actuator								
921--Series	Yellow	----Red----		Orange	Black	----Green----		Brown
922--Series 924--Series	Yellow	----Red----		Black	Orange	----Red----		Brown
Hybrid Types								
17HS Series								
17HS ---	Red	----Black----		Red / white	Green / White	----White----		Green
17HS 006 mk3	Red	----Black----		Red / white	Green	----White----		Green / white
17HS 012	Blue	----White----		Orange	Yellow	----Black----		Red
23HS & 34HS Series								
23HS-030	Red	----Black----		Red / White	Green	----White----		Green / white
23HS 1-- 23HS 2-- 23HS 3-- 34HS 1-- 34HS 2-- 34HS 3--	Red Or Red	Black Red / white	White Yellow / white	Red / white Yellow	Green / white Black	Black / white Black / white	Orange Orange / white	Green Orange
Rare Earth Magnet Stepper Motors								
23HS 102X	Red	Black	White	Red / white	Green / white	Black / white	Orange	Green
23HSX 1-- 23HSX 2-- 23HSX 3--	Red	Red / white	Yellow / white	Yellow	Orange	Orange / white	Brown / white	Brown
34HSX 1-- 34HSX 2-- 34HSX 3--	Red	Red / white	Yellow / white	Yellow	Black	Black / white	Orange / white	Orange

Motor & Encoder Wiring Instructions



Lead Colours		Mclennan System SM9000 Series Connector & Pin Configurations			
		15 Way D	8 Way Ringlock	12 Way Ringlock	12 Way Heidenhain
Red	5v Supply Voltage	9	A	A	12
Black	0v	2	B	B	10
White	Channel A	11	C	C	5
Green	Channel B	12	D	D	8
Yellow	Channel A-	3	E	E	6
Blue	Channel B-	4	F	F	1
Orange	Channel I	13	G Not connected	G	3
Brown	Channel I-	5	H Not connected	H	4

CI...T series incremental encoder

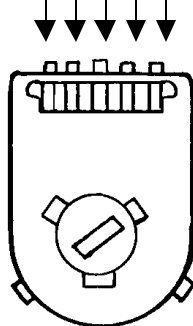
Suitable Connectors

Manufacturer type

AMP 103686-4
640442-5
BERG 65801-034
Molex 2695 with
2759 terminals

Channel A Pin 3
Supply Pin 4
Channel B Pin 5

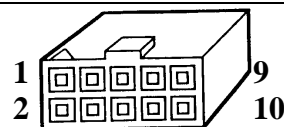
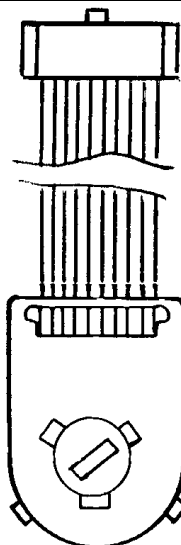
NC Pin 2
GND Pin 1



CI...L series incremental encoder

Suitable mating Connectors

RS 471 - 109
471 - 020
482 - 115
482 - 193



No	Parameter
1	NC
2	Vcc(+5v)
3	GND
4	NC
5	A-
6	A
7	B-
8	B
9	I- (Index)
10	I (Index)