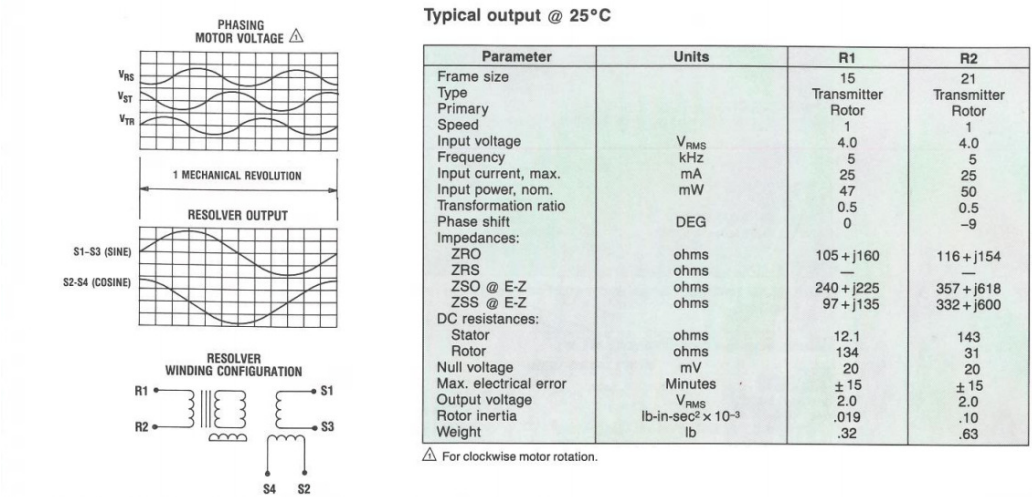# R20 Series Pacific Scientific Resolver Feedback & Connection

PRIMARY FEEDBACK DEVICES . . . TECHNICAL DATA (contd.)

Frameless resolvers (R1, R2)

Typical output @ 25°C

Parameter	Units	R1	R2
Frame size		15	21
Type		Transmitter	Transmitter
Primary		Rotor	Rotor
Speed		1	1
Input voltage	V_{RMS}	4.0	4.0
Frequency	kHz	5	5
Input current, max.	mA	25	25
Input power, nom.	mW	47	50
Transformation ratio		0.5	0.5
Phase shift	DEG	0	−9
Impedances:			
ZRO	ohms	105 + j160	116 + j154
ZRS	ohms	—	—
ZSO @ E-Z	ohms	240 + j225	357 + j618
ZSS @ E-Z	ohms	97 + j135	332 + j600
DC resistances:			
Stator	ohms	12.1	143
Rotor	ohms	134	31
Null voltage	mV	20	20
Max. electrical error	Minutes	± 15	± 15
Output voltage	V_{RMS}	2.0	2.0
Rotor inertia	lb-in-sec$^2 \times 10^{-3}$	.019	.10
Weight	lb	.32	.63

⚠ For clockwise motor rotation.

MOTOR LEADS

Wire Gauge:	
R20	22 ga.
R30	18 ga.
Function:	Color Code:
Phase R	Blue
Phase S	Brown
Phase T	Violet
Ground (Frame)	Green

FRAMELESS RESOLVER

Wire Gauge:	
*R1	30 ga.
*R2, RC	24 ga.
*RW	28 ga.
Function:	Color Code:
S4 (− cosine)	Blue
S2 (+ cosine)	Black
S3 (+ cosine)	Yellow
S1 (+ sine)	Red
R1 (excitation)	Red/White
R2 (excitation RTN)	Black/White *(R1)
R2 (excitation RTN)	Yellow/White *(R2, RC, RW)
Shield	

*See ordering guide.