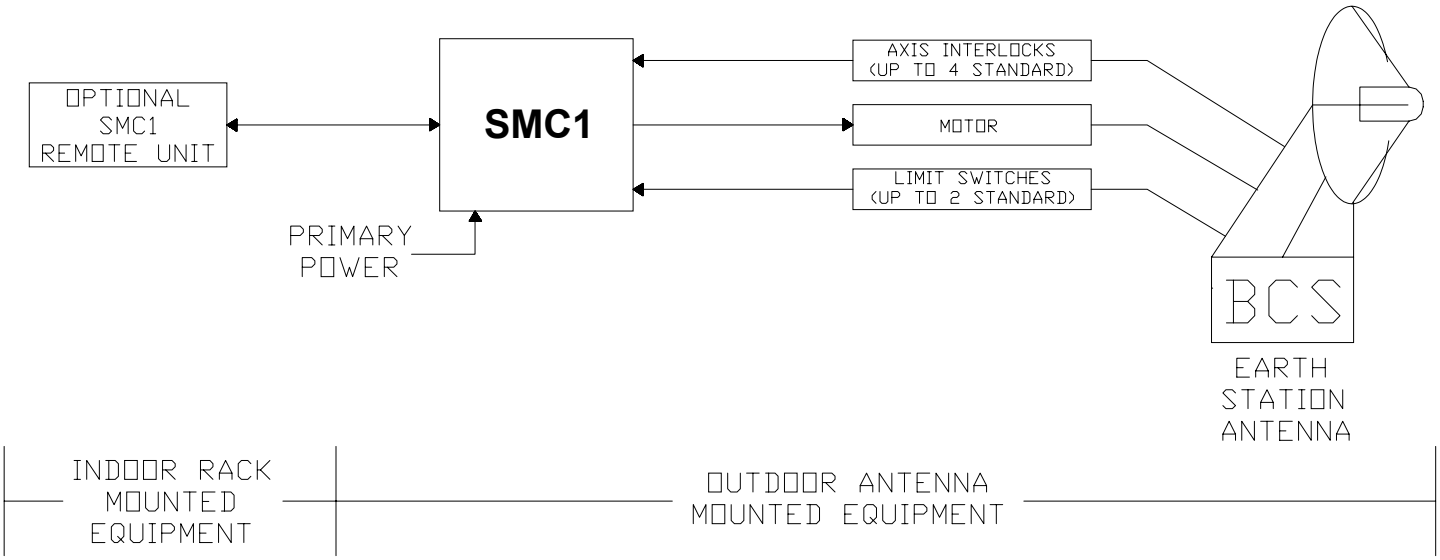
SMC1

Stow Motor Control System

SMC1 Stow Motor Control System Overview

The SMC1 Stow Motor Control System, developed by Bradshaw Communication Systems, provides high power three phase motor control and limit/interlock switch monitoring for earth station antennas requiring single axis stow capabilities. The earth station antennas are most commonly parabolic reflectors with a single steerable axis of motorization. When combined with the optional Stow Motor Control Remote Panel, the SMC1 allows for both local (at the antenna) and remote (at a remote indoor rack location) control and monitoring of an earth station antenna stow axis. For systems not requiring rack mounted remote control, the SMC1 may be ordered and used without the remote control option, still providing complete local axis control at the front of the antenna mounted SMC1 unit. A typical system configuration is shown in Figure 1 and details interconnection of the SMC1 with the other required system components that comprise a complete stow control system.

NEMA rated motor protection, high reliability reversing contactor control, and fully connectorized printed circuit board based relay safety logic are forefront in the SMC1 design. LED feedback of limit and interlock switch position and system power status make the system easy to install and operate. A key controlled enable allows only authorized personnel to activate antenna motion. Visual indication of interlocks not being removed and continued axis interlock occurs when authorized personnel attempt antenna movement without interlocks being properly released. Packaged in a weatherproof NEMA 4X fiberglass enclosure, the SMC1 is built to provide years of durability in its outdoor environment. High quality components and exceptional performance found in the SMC1 will provide the system operator with the high level of confidence needed in a new stow motor control system from start-up to long term operation.



TYPICAL SYSTEM CONFIGURATION
FIGURE 1

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SMC1 Stow Motor Control System Specifications

- **Part Number Configuration**
  - P/N 03-01000-1
    SMC1 Stow Motor Control Unit WITHOUT rack mount remote unit. Cable glands as specified below. Key controlled enable supplied with two keys. Up/Down control with interlock indication.
  - P/N 03-01000-2
    SMC1 Stow Motor Control Unit WITH rack mount remote unit. Cable glands as specified below. Key controlled enable supplied with two keys. Up/Down control with interlock indication and Rack Mount Remote Unit features listed below.
- **Rack Mount Remote Unit**
  - Control (power supplied by SMC1)
    Up and Down (within limits)
  - Monitoring (power supplied by SMC1)
    Power (Green LED)
    Local Control (Red LED)
    Interlock/s (Red LED)
    Up Limit (Red LED)
    Down Limit (Red LED)
- **Cable Entry**
  - Supplied with installed weatherproof cable glands (for 0.230 - 0.530 inch diameter cable) as follows:
    Interlocks – Up to 4 ea (specified at time of order)
    Limits - Up to 2 ea (specified at time of order)
    Motor Power Output – 1 ea
    Input Power – 1 ea
    Remote Unit Option – 1 ea (only with "-2" P/N)
- **Limit / Interlock Switch Inputs**
  - Elevation Up – (open to disable up)
  - Elevation Down – (open to disable down)
  - Axis Interlock/s – (open to disable axis)(up to 4)
- **Physical**
  - SMC1 Stow Motor Control Unit Enclosure
    Wall Mounted Weatherproof NEMA 4X Gray Fiberglass Enclosure. Hinged Cover with Screw Release Latches.
  - SMC1 Stow Motor Control Unit Dimensions
    14.5" high x 13" wide x 8.3" deep
    (36.8cm high x 33cm wide x 21.1cm deep)
  - SMC1 Remote = ANSI/EIA 1 Rack Height
  - Weight
    SMC1=30LBS(13.6 Kg)/Remote=10LBS(4.54 Kg)
- **Environmental**
  - SMC1 = -40°F to 122°F (-40°C to +50°C)
    100% humidity
  - SMC1 Remote = 32°F to 122°F (0°C to +50°C)
    85% humidity (non-condensing)
- **Approvals**
  All SMC1 components designed to meet or exceed UL 508, CSA, and CE requirements.
- **Power Requirements**
  - Motor – 5HP Maximum
    3 ∅, 208/230/460 or 380/415 VAC+/-10%
    Power range MUST be spec'd at time of order.
    50/60Hz+/-5%, 3 Wire + Safety Ground

Interlock Switch/s, Limit Switch/s, Motor, and all system cabling are customer supplied unless BCS is contracted separately to supply these system components.

Input power, motor size and cable gland requirements must be provided at time of order for both P/Ns.

Larger maximum motor size and stainless steel enclosure options available upon request.

Conclusion

With over 40 years of combined experience in the Satellite Communications Industry, Bradshaw Communication Systems (BCS) has the solution to get your job done right and on time. By providing extremely high quality products and services at economical prices, BCS has become a respected name in the industry and the right choice when it comes to satellite earth station antenna products and services. BCS has provided custom solutions for numerous customers and stands ready to provide components, systems, and services to best fit your specific requirements. Please contact BCS today regarding your requirements.

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