

Manipulator IMD Test Cable

Model Number: THRSLTCA1000

Overview

The Manipulator IMD Test Cable provides a complete interface between the manipulator drive unit and its motor subsystem, supporting motor phases, encoder feedback, hall sensors, brakes, limit switches, and potentiometer signals. Designed with rugged MIL-grade connectors and shielded PTFE wiring, the cable ensures dependable operation in harsh environments.

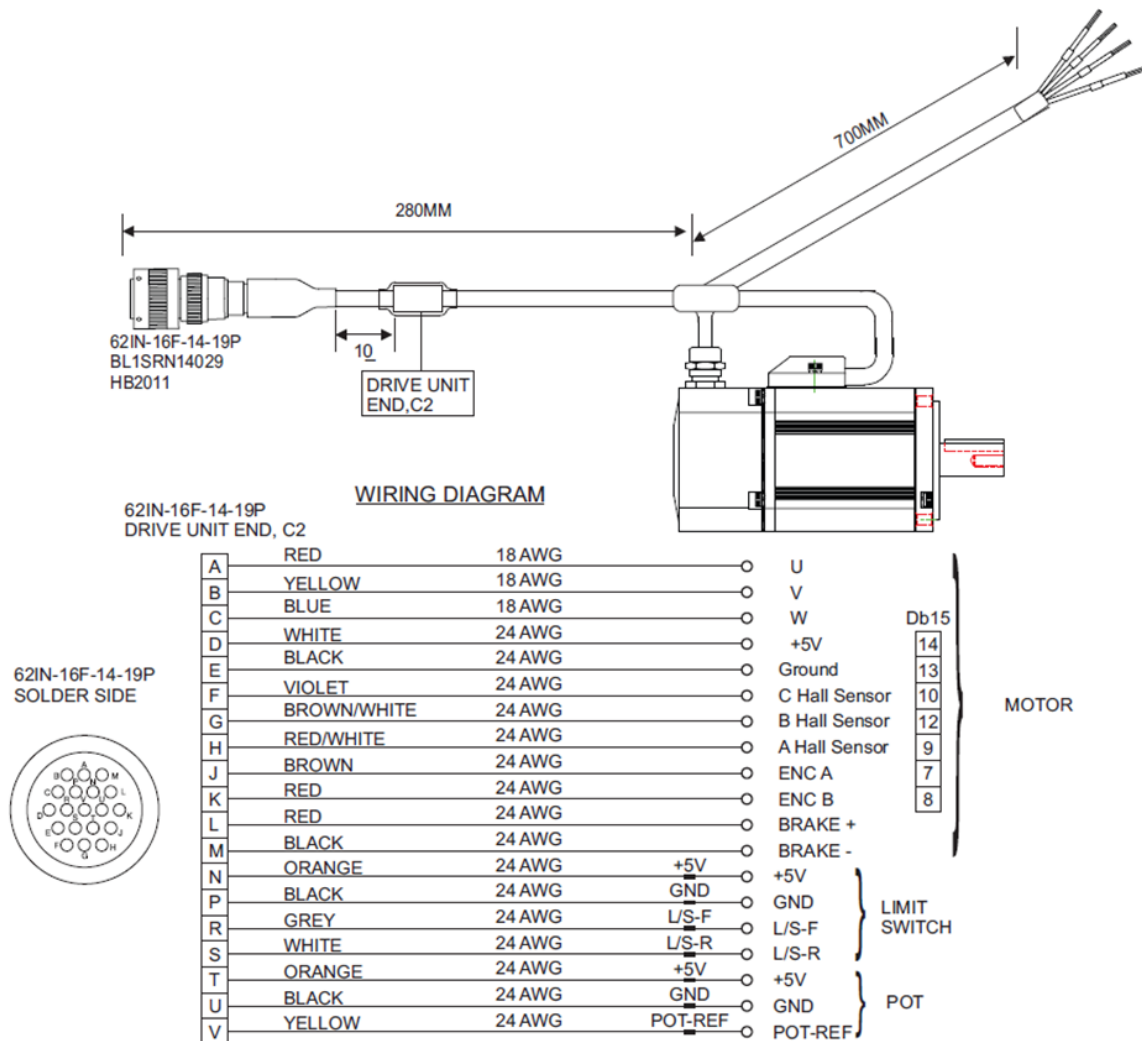
Proven in the **UXOR project supplied to the Indian Air Force (IAF)**, it has delivered reliable connectivity during subsystem integration and field testing.

Technical Specifications

Parameter	Specification
Function	Power, control, and feedback interface for manipulator IMD
Connector	Drive Unit End: 62IN-16F-14-19P
Supported Signals	Motor, Hall sensors, Encoder, Brake, Limit Switch, POT
Cable Length	280 mm (connector run) + 700 mm (motor run)
Cable Construction	Shielded PTFE wiring with rugged strain relief
Protection Standard	IP65
Operating Temperature	-20°C to +55°C

Pin Configuration – 62IN-16F-14-19P

Pin	Wire Color	AWG	Signal	Connected To
A	Red	18	U (Motor)	–
B	Yellow	18	V (Motor)	–
C	Blue	18	W (Motor)	–
D	White	24	+5V	DB15 Pin 14
E	Black	24	Ground	DB15 Pin 13
F	Violet	24	C Hall Sensor	DB15 Pin 10
G	Brown/White	24	B Hall Sensor	DB15 Pin 12
H	Red/White	24	A Hall Sensor	DB15 Pin 9
J	Brown	24	ENC A	DB15 Pin 7
K	Red	24	ENC B	DB15 Pin 8
L	Red	24	BRAKE +	–
M	Red	24	BRAKE –	–
N	Black	24	+5V (Limit SW)	–
P	Orange	24	GND (Limit SW)	–
R	Black	24	L/S-F	–
S	Grey	24	L/S-R	–
T	White	24	+5V (POT)	–
U	Orange	24	GND (POT)	–
V	Yellow	24	POT-REF	–



Key Features

- Consolidates **motor drive, encoder, hall sensor, brake, limit switch, and potentiometer signals** in one rugged harness.
- MIL-grade Amphenol connector for secure field operation.
- Optimized cable lengths for subsystem integration.
- Shielded PTFE wiring ensures EMI/EMC protection.
- Proven under demanding defense-grade applications.

Applications

- Manipulator IMD subsystem testing and validation.
- Bench and field integration of robotic arm drives.
- Feedback and control connectivity for defense robotics.
- **UXOR manipulator IMD integration (field-proven in IAF deployment).**

Note

The Manipulator IMD Test Cable is part of THRSL's standard subsystem cable suite. Custom variants can be developed for alternate connector pinouts, additional shielding, or extended lengths.