

### REXA Actuator Cables UL approved

Severe services and harsh environments can be found in every industry including; power generation, oil & gas transmission, water treatment or mining & metals. So what's the one thing all these industries have in common? They rely on REXA Electraulic™ actuation to solve their problems.

If you need the stability and precision that allows today's power plants to operate at peak performance... REXA has the solution. Our self-contained electro-hydraulic actuators and drives improve control and extend the life of severe service trims from feed water control and recirculation and throughout the steam system. REXA offers configurations for valves and dampers as well as turbine control applications.

ShawFlex has partnered with REXA to manufacture cables that meet the electrical requirements of its devices.

#### Applications

- Power generation
- Oil & gas
- Mining
- Metals
- Water and waste

#### Features

- Short runs/custom lengths
- Custom configurations
- Sunlight resistant
- FT4/IEEE 1202 & UL1685 flame rated
- "Direct Burial" rated

#### Ordering Information

ShawFlex Part #	ShawFlex Description	REXA Product Type
2C631U1801187RX	1TR 18/7T OS XLPE AIA PVC 600V UL MC	REXA Actuator Feedback
2C631U1605107RX	4PR+1TR 16/7T OS XLPE AIA PVC 600V UL MC	REXA Stepper Motor BC, up to 300ft
2C631U1405107RX	4PR+1TR 14/7T OS XLPE AIA PVC 600V UL MC	REXA Stepper Motor BC, up to 500ft
2C631U1205107RX	4PR+1TR 12/7T OS XLPE AIA PVC 600V UL MC	REXA Stepper Motor BC, up to 700ft
2X622U1804187RX	4PR 18/7T IS/OS XLPE AIA PVC 300V ITC/PLTC	REXA Servo Motor Resolver
2C611U1404507RX	4C 14/19T OS XLPE AIA PVC 600V UL MC	REXA Servo Motor Power (½D, D & 2D Modules)
2K61BU1004507RX	4C 10/19T OS/BS XLPE AIA PVC 2KV UL MC	REXA P9 Booster Motor Power
2K61BU0804507RX	4C 8/19T OS/BS XLPE AIA PVC 2KV UL MC	REXA P40 Booster Motor Power
2K61BU0604507RX	4C 6/19T OS/BS XLPE AIA PVC 2KV UL MC	REXA P40 Booster Motor Power, de-rated
2C611U1605107RX	5C 16/7T OS XLPE AIA PVC 600V UL MC	REXA Module Cable
2C631U1601187RX	1TR 16/7T OS XLPE AIA PVC 600V UL MC	REXA Solenoid



Field wiring is terminated inside the control enclosure

#### Constructions

- Aluminum interlocked armour (AIA)
- Steel interlocked armour (SIA)
- Verlok® (for mineshaft applications)

#### Approvals

- UL 1569 metal clad cable (Type MC)
- UL 13 power limited tray cable (Type PLTC)
- UL 2250 instrumentation tray cable (Type ITC)
- UL 44 thermoset insulated wires (Types XHHW-2 & RHW-2)
- XLPE (Types XHHW-2 & RHW-2) 90°C wet/dry
- Rated for Class I Zone 2 (Div 2) and Class II Zone 22 (Div 2)
- -40°C cold bend

## ACTUATOR CABLES

### Recommended Cable Lengths

The X2 consists of two major components, the Mechanical Sub-Assembly (MSA) and the Electrical Sub-Assembly (ESA). The MSA is installed on the driven device, while the ESA is remotely mounted. Connecting them are the module cable and the feedback cable.

Two additional cables, a motor and a resolver cable, are required for servo power modules.

### Stepper Module Units

**Feedback Cable: ShawFlex 2C631U1801187RX 1TR 18/7T OS XLPE AIA PVC 600V UL MC**

The feedback cable carries the actuator position to the control enclosure. The maximum current is 20 mA and the maximum voltage is 15 Vdc.

The standard cable consists of three conductors, a tinned copper drain wire and overall foil shielding. Each individual wire is 18 AWG with an approximate cable diameter of 0.731". The feedback cable is not restricted by distance. The feedback cable is a signal level cable and must remain separated from high voltage cables by at least one meter (40 inches).

#### Module Cable

The B and C size power module cable is used to power the motor, heater and optional by-pass solenoid. The standard cable consists of 4 twisted pairs, a twisted triad, a 16 AWG drain wire and overall foil shield. Voltages as high as 240 Vac can be carried on this cable. The module cable is considered a high voltage cable and must remain separate from signal level cables and sensitive equipment by at least one meter (40 inches).

For proper operation the following distances are not to be exceeded:

AWG	Diameter	B, C, 2C*	ShawFlex Part # (Description)
16 (std)	1.095"	300 ft	2C631U1605107RX (4PR+1TR 16/7T OS XLPE AIA PVC 600V UL MC)
14	1.127"	500 ft	2C631U1405107RX (4PR+1TR 14/7T OS XLPE AIA PVC 600V UL MC)
12	1.226"	700 ft	2C631U1205107RX (4PR+1TR 12/7T OS XLPE AIA PVC 600V UL MC)

\* Quantities of two module cables are used for the 2C actuators.

### Servo Module Units

**Feedback Cable: ShawFlex 2C631U1801187RX 1TR 18/7T OS XLPE AIA PVC 600V UL MC**

The feedback cable carries the actuator position to the control enclosure. The maximum current is 20 mA and the maximum voltage is 15 Vdc.

The standard cable consists of three conductors, a tinned copper drain wire and overall foil shielding. Each individual wire is 18 AWG with an approximate cable diameter of 0.731". The feedback cable is not restricted by distance. The feedback cable is a signal level cable and must remain separated from high voltage cables by at least one meter (40 inches).

**Motor Power Cable (½D, D and 2D modules only): 2C611U1404507RX 4C 14/19T OS XLPE AIA PVC 600V UL MC**

The motor power cable consists of four 14 AWG wires, a tinned copper drain wire and overall foil shield.

The approximate cable diameter is 0.83". Standard voltages of 180 Vdc for ½D modules and 360 Vdc for D modules are carried on this cable. The motor power cable is considered a high voltage cable and must remain separate from signal level cables and sensitive equipment by at least one meter (40 inches).

Two cables are required for 2D power modules.

**Resolver Cable (½D, D and 2D modules only): 2X622U1804187RX 4PR 18/7T IS/OS XLPE AIA PVC 300V ITC/PLTC**

The resolver cable provides velocity and temperature information from servo motors to the servo motor driver. It consists of four twisted shielded pairs of 18 AWG wires, a tinned copper drain wire and overall foil shield. The approximate cable diameter is 0.80". Only signal level voltages and currents are carried by this cable. The resolver cable is a signal level cable and must remain separated from high voltage cables by at least one meter (40 inches).

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Two cables are required for 2D power modules.

### Module Cable

The power module cable is used to power the heater and optional bypass solenoid. The standard cable consists of 5 five 16 AWG conductors. The overall diameter is approximately 0.827". Voltages as high as 240 Vac can be carried on this cable. The module cable is considered a high voltage cable and must remain separate from signal level cables and sensitive equipment by at least one meter (40 inches).

For proper operation, the following distance is not to be exceeded:

AWG	Diameter	B, C, 2C*	ShawFlex Part # (Description)
16 (std)	0.827"	300 ft	2C611U1605107RX (5C 16/7T OS XLPE AIA PVC 600V UL MC)

\* Quantities of two Motor and Resolver cables are used for the 2D actuators.

### Booster Cable

The P9 servo motor cable consists of four 10 AWG wires, a tinned copper drain wire and overall foil shield and overall braid shield. The approximate cable diameter is 1.11". Standard voltage of 360 Vdc is