

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

Accessories

Control Techniques offers a number of products, which add power, flexibility and value to the Unimotor range:



Cable Assemblies and Connectors

Control Techniques' cable assemblies simplify motor connection and reduce installation time. Made to order in lengths up to 100 metres, they have a PUR sheath for high resistance to oil, grease and solvents and have an excellent dynamic performance. CSA and UL approved.

Accessories also available from your local Control Techniques Drive Centre



Planetary Gearmotors

Gearmotors deliver greater torque output whilst maintaining high standards of precision and reliability. They may be mounted in any orientation and are available with single or double stage gearbox options.



Fan Cowlings

Fan cowlings force cool air through the fins on the Unimotor housing to increase torque output by up to 70%. Available to fit all motor frame sizes, the units may be retrofitted and maximise power density in tight spaces.

For further information on planetary gearmotors and fan cowlings please contact your local Drive Centre

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Cable Assemblies

Characteristics - Power and Signal Cables

Cables are an important part of a servo system installation. Not only must the noise immunity and integrity of the cabling and connectors be correct, but SAFETY and EMC regulations must be complied with to ensure successful, reliable and fail-safe operation. One of the most frequent problems experienced by motion systems engineers is incorrect wiring connections of the motor to the drive.

Control Techniques' ready-made cables mean system installers can avoid the intricate, time consuming assembly normally associated with connecting servo systems. Installation and set-up time are greatly reduced - there is no fiddling with wire connections and crimp tools, and no fault finding. The cables are made to order in lengths from 3m to 100m and are available for all standard Unimotor options.

Features

- UL and CSA approved
- Power and signal cables available
- No need for crimp and insertion / removal tools
- Production build gives quality and price benefits
- Compatible with Unimotor and Unidrive
- Optimum noise immunity
- Oil resistant PVC signal cable for industrial environments and some dynamic applications
- PUR power cable for oil resistance and long life dynamic applications
- Brake wires are separately shielded within power cable
- Thermistor wire pair is separately shielded in signal cable
- Encoder power pair each 1mm^2 conductors in signal cable for low volt drop
- Braided screen for greater flexibility and wear
- Power cables with or without brake
- Shielded brake supply wires
- Cable assembly type identification label

Applications

- For general applications choose PVC type. This has good all round performance.
- Use PUR for high dynamic applications where cable is frequently in motion.
- Use PUR for machine tools where the cable is sprayed with coolant fluid.
- 2.5 mm^2 conductors are applicable to all motors in the range to 142 frame size.
- 4.0mm^2 conductors are applicable to 190 frame sizes.



Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

PUR Power Cables

Specification - Shielded Power Cable Options 2.5mm²

Cable Description	*(2.5mm²) PUR Shielded Power, without Brake*	*(2.5mm²) PUR Shielded Power, with Brake*
Cable Type	PSBA--	PBBA--
Power Conductors	4 x 2.5mm²	4 x 2.5mm²
Brake Supply Wires	-	1 x (2x1) mm²
Conductor Type	Copper stranded to DIN VDE 0295 Class 6, IEC 228 Class 6, CEI 20-29 Class 6; 147 x 0.15mm;13 AWG	
Insulation Material	PET - complies: VDE 0250 part 1 tab 4	
Core Identification	Black, printed white: U, VV, WWW, GY	
Brake Signal Pair Brake Conductors	-	Copper stranded 19 x 0.25mm
Brake Insulation	-	PET - complies: VDE 0250 part 1 tab 4
Brake Pair Shield	-	Tinned copper spiralled covering ≥90%
Brake Core Identification	-	Black and white
Taping	-	Soft tape
Shield	Tinned copper braid covering ≥85%	Tinned copper braid covering ≥85%
Shield Diameter	10.5mm	10.5mm
Outer Jacket	Polyurethane complies: VDE 025-818 black	Polyurethane complies: VDE 025-818 black
Outer Jacket Diameter	12.8 mm± 4%	12.8 mm ± 4%
Voltage (power)	600 V / 1000 V	600 V / 1000 V
Voltage (brake pair)	-	250 V
Dielectric Strength (power)	3000 V	3000 V
Dielectric Strength (brake pair)	-	1000V
Insulation Resistance (power)	>10 MOhm/km	>10 MOhm/km
Capacitance (phase - phase)	110 pf/m	110 pf/m
Capacitance (phase - screen)	190 pf/m	190 pf/m
Bending Radius (min)	10 x diameter, dynamic laying (150 mm)	
Speed (max)	180 m/min	180 m/min
Acceleration (max)	7 m/s²	7 m/s²
Bending Life (min)	5 million cycles	5 million cycles
Operating Temperature	-10°C to + 80°C	-10°C to + 80°C
Storage Temperature	-30°C to + 80°C	-30°C to + 80°C
Pulling Strength (max, dynamic)	20 N/mm²	20 N/mm²
Pulling Strength (max, fixed)	50 N/mm²	50 N/mm²
Weight	160 kg/km	160 kg/km

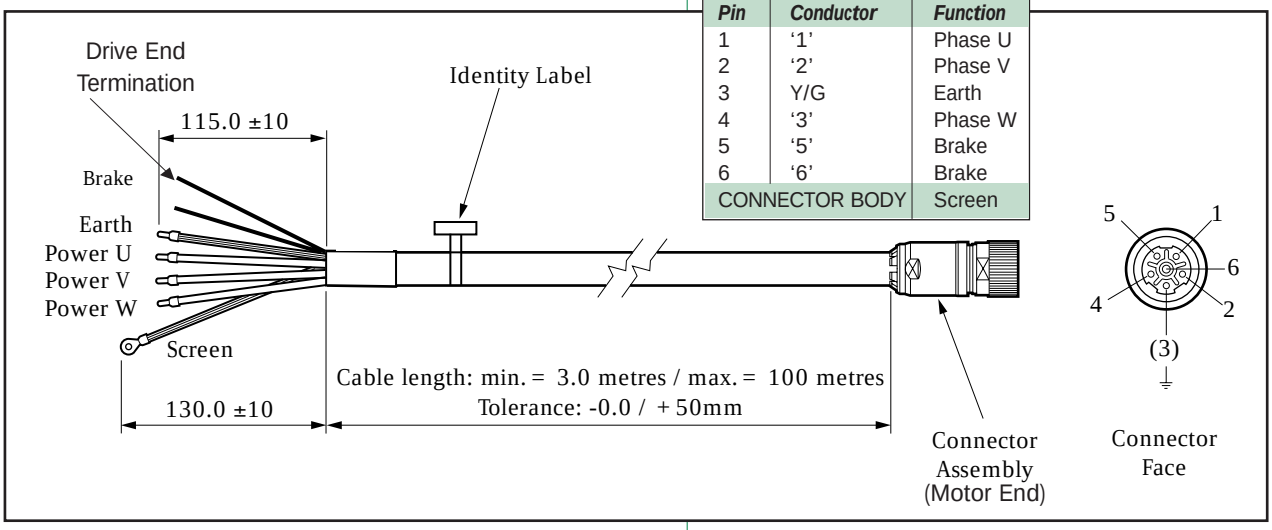
Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Specification - Shielded Power Cable Options 4.0 mm²

Cable Description	***(4.0 mm²) PUR Shielded Power, without Brake***	***(4.0 mm²) PUR Shielded Power, with Brake***
Cable Type	PSBB--	PBBB--
Power Conductors	4 x 4.0mm²	4 x 4.0mm²
Brake Supply Wires	-	1 x (2x1) mm²
Conductor Type	Copper stranded to DIN VDE 0295 Class 6, IEC 228 Class 6, CEI 20-29 Class 6; 245 x 0.15mm; 11 AWG	
Insulation Material	PET - complies: VDE 0250 part 1 tab 4 NFC & CEI	
Core Identification	Black, printed white: U, VV, WWW, G/Y	
Brake Signal Pair		
Brake Conductors	-	Copper stranded 19 x 0.25mm
Brake Insulation	-	PET
Brake Pair Shield	-	Tinned copper spiralled covering ≥ 90%
Brake Core Identification	-	Black and white
Taping	-	Soft tape
Shield	Tinned copper braid covering ≥85%	Tinned copper braid covering ≥85%
Shield Diameter	11.3 mm	
Outer Jacket	Polyurethane complies: VDE 025 - 818, black	
Outer Jacket Diameter	14.4 mm± 4%	
Voltage (power)	600 V / 1000 V	
Voltage (brake pair)	-	250 V
Dielectric Strength (power)	3000 V	3000 V
Dielectric Strength (brake pair)	-	1000 V
Insulation Resistance (power)	>10 MOhm/km	>10 MOhm/km
Capacitance (phase - phase)	120 pf/m	120 pf/m
Capacitance (phase - screen)	200 pf/m	
Bending Radius (min)	10 x diameter, dynamic laying (150 mm)	
Speed (max)	180 m/min	180 m/min
Acceleration (max)	7 m/s²	7 m/s²
Bending Life (min)	5 million cycles	5 million cycles
Operating Temperature	-10˚C to + 80˚C	-10˚C to + 80˚C
Storage Temperature	-30˚C to + 80˚C	-30˚C to + 80˚C
Pulling Strength (max, dynamic)	20 N/mm²	20 N/mm²
Pulling Strength (max, fixed)	50 N/mm²	50 N/mm²
Weight	230 kg/km	230 kg/km

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

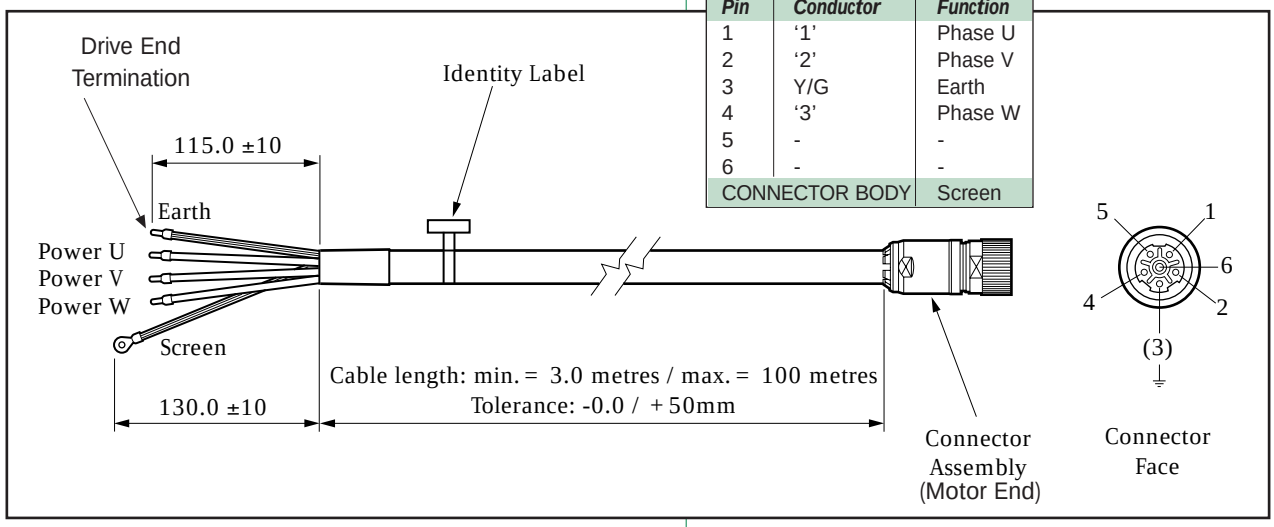
Outline Drawing - Power Cable With Brake



Power Cable Connections - with Brake

Pin	Conductor	Function
1	'1'	Phase U
2	'2'	Phase V
3	Y/G	Earth
4	'3'	Phase W
5	'5'	Brake
6	'6'	Brake
CONNECTOR BODY		Screen

Outline Drawing - Power Cable Without Brake



Power Cable Connections - without Brake

Pin	Conductor	Function
1	'1'	Phase U
2	'2'	Phase V
3	Y/G	Earth
4	'3'	Phase W
5	-	-
6	-	-
CONNECTOR BODY		Screen

Ordering Information - Power Cables

Use the information on the following chart to create an order code. The top line is an example of an order code.

PB	B	B	B	095

Insulator:
B - PUR

Cable Length (metres):
Min - 003 (3 metres)
Max - 100 (100 metres)

Cable Type:
PS - Power (Standard)
PB - Power (With brake)

Conductor Size:
A - 4x 2.5mm2 conductor (75A - 190A)
B - 4x 4.0mm2 conductor (190B - 190D)

Connector Types:
A - Ferrule ends at Drive, Inter-connectron at Motor (not 190)
B - Ferrule ends at Drive, unfinished cut end at Motor
C - Ferrule ends at Drive and Motor for hybrid or terminal box
X - Cable only

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

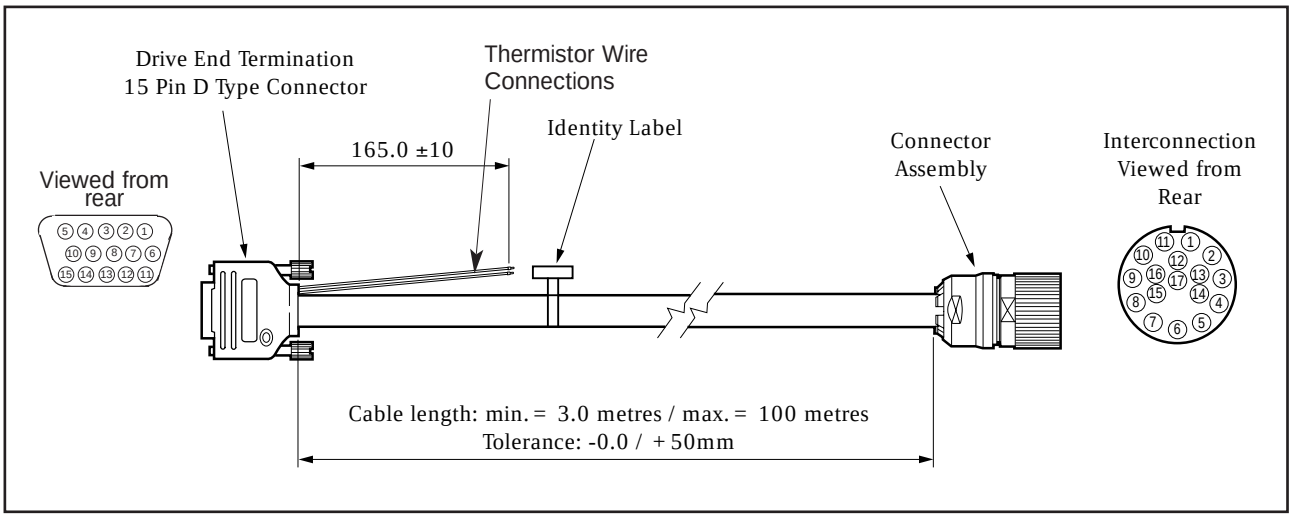
Signal Cable

Specification - Shielded Signal Cable Incremental, PVC or PUR

Cable Description	***PVC/PUR Shielded Signal - Incremental***
Cable Type	SIAA--
Encoder Supply Conductors	1 x (2 x 1.0mm^2)
Conductor Type	Tinned copper stranded to DIN VDE 0295 Class 5, IEC 228 Class 5
Insulation Material	Polypropylene 1.75 mm dia. ± 0.1mm
Core Identification	Red, Blue
Screened Thermistor Wires Thermistor Wires	Tinned Copper stranded, 1 x (2 x 0.34 mm^2)
Thermistor Insulation	Polypropylene 1.25 mm dia. ± 0.1mm
Thermistor Screen	Aluminium foil covering ≥ 100%
Encoder Signal Wires Signal Wires	Tinned copper stranded, 6 x (2 x 0.34mm^2)
Insulation Material	Polypropylene 1.25 mm dia. ± 0.1mm
Core Identification	To DIN 47100 (pairs numbered 2 - 7)
Shield	Tinned copper braid covering ≥85%
Shield Diameter	8.5mm (nominal)
Outer Jacket	black
Outer Jacket Diameter	10.9 ±4%
Voltage	30 V RMS
Dielectric Strength	1500 V
Insulation Resistance	≥5000 MOhm/km
Capacitance (phase - phase) Supply Conductors Thermistor Wires Signal Wires	 80 pf/m 100 pf/m 70 pf/m
Capacitance (phase - screen) Supply Conductors Thermistor Wires Signal Wires	 150 pf/m 180 pf/m 125 pf/m
Bending Radius (min)	10 x diameter
Speed (max)	120m/min
Acceleration (max)	4 m/s^2
Bending Life	5 million cycles
Operating Temperature	-10˚C to +80˚C
Storage Temperature	-30˚C to +80˚C
Pulling Strength (max. dynamic)	20 N/mm^2
Pulling Strength (max. fixed)	35 N/mm^2
Weight	200 kg/km

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

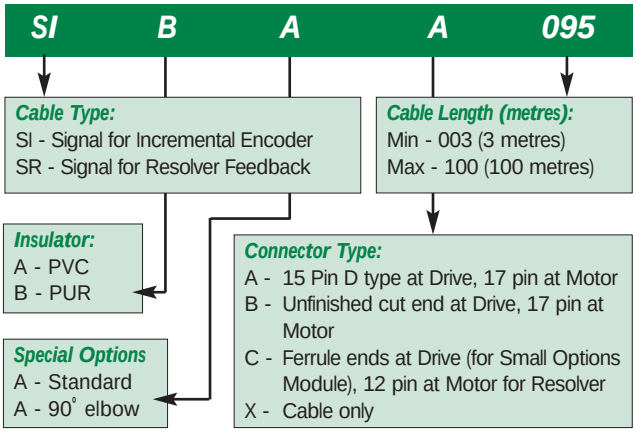
Outline Drawing - Signal Incremental Cable



'D' Type Connector			17 pin Interconnectron Connector		
Pin	Colour	Function	Pin	Colour	Function
1	Grey/Pink Band	Channel A	1	White	Thermistor
2	Red/Blue Band	Channel A Inverse	2	Brown	Thermistor Rtn
3	Red (0.34mm^2)	Channel B	3	-	Not Used
4	Blue (0.34mm^2)	Channel B Inverse	4	Green	S1
5	White/Green Band	Index	5	Yellow	S1 Inverse
6	Brown/Green Band	Index Inverse	6	Grey	S2
7	Green	S1	7	Pink	S2 Inverse
8	Yellow	S1 Inverse	8	Black	S3
9	Grey	S2	9	Purple	S3 Inverse
10	Pink	S2 Inverse	10	Grey/Pink Band	Channel A
11	Black	S3	11	White/Green Band	Index
12	Purple	S3 Inverse	12	Brown/Green Band	Index Inverse
13	Red (1.0mm^2)	+5 Volts dc	13	Red/Blue Band	Channel A Inverse
14	Blue (1.0mm^2)	0 Volts	14	Red (0.34mm^2)	Channel B
15	-	Not Used	15	Blue (0.34mm^2)	Channel B Inverse
-	White	Thermistor	16	Red (1.0mm^2)	+5 Volts dc
-	Brown	Thermistor Rtn	17	Blue (1.0mm^2)	0 Volts
BODY	Thermistor screen & overall screen		BODY	To overall screen	

Ordering Information - Signal Cables

Use the information given on the following chart to create an order code for signal cables. The top line is a typical example.



Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

UNIMOTOR Brushless Servo Motors

Connector Accessories

Control Techniques offers a range of connector accessories to suit the power and signal connection requirements of Unimotor UM and SL. Connector assembly kits, which include the power, signal connectors and their crimp sockets may be ordered, alternatively, individual connector assemblies may be ordered.

Power and Signal Connector Packs

Description	Pack Content	Use For	Order Ref.
17 Way Plug Pack	1 x 17 way signal plug 17 x crimp sockets 1 x 6 way power plug 6 x crimp sockets	Power & signal connection to UM Motors with incremental encoder feedback	IM/0012/KI
5 Way Plug Pack	1 x 5 way solder plug 1 x 6 way power plug 6 x crimp sockets	Power & signal connection to SL Motors with CT Coder and SL electronics	IM/0024/KI
12 Way Plug Pack	1 x 12 way signal plug 12 x crimp sockets 1 x 6 way power plug 6 x crimp sockets	Power & signal connection to UM Motors with resolver feedback	IM/0011/KI

Individual Connector Packs

Description	Pack Content	Use For	Order Ref.
6 Way Power Plug	1 x 6 way power plug 6 x crimp sockets	Power Connection to UM & SL Motors	IM/0021/KI
17 Way Signal Plug	1 x 17 way signal plug 17 x crimp sockets	Signal connection to UM Motors with incremental encoder feedback	IM/0022/KI
12 Way Signal Plug	1 x 12 way signal plug 12 x crimp sockets	Signal connection to UM Motors with resolver feedback	IM/0023/KI
5 Way Signal Plug	1 x 5 way solder plug	SL Motors with CT Coder and SL electronics	7580029

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP