BUS RS-485

-30°C to +80°C, 300V



Construction
Conductor: Tinned Copper · Stranded
Core Insulation: Foamed · Foam PE
Cabling: Twisted
Core Identification: Pair 1: White/Blue Stripe & Blue/White Stripe; Pair 2: White/Orange Stripe & Orange/White Stripe; Pair 3: White/Green Stripe & Green/White Stripe; Pair 4: White/Brown Stripe & Brown/White Stripe
Shield: Foil · Aluminum/polyester (Al/PET) foil
Drain Wire: Stranded Tinned Copper
Shield: Braid · Tinned copper braid
Jacket: Extruded · PVC

Thermal Characteristics
Operating Temperature: -30°C to +80°C
Occasional Flexing / Installation Temperature: -5°C to +70°C

Electrical Characteristics
Operating Voltage: 300V
Test Voltage: 1500V
Characteristic Impedance: 120 Ω ± 12 Ω (at 1 MHz)
Mutual Capacitance: Approx. 42 nF/km (conductor to conductor at 1 kHz)
Velocity of Propagation: Approx. 78%

Application
Fieldbus and Serial Data Networks: For differential serial and fieldbus communication links between programmable controllers, distributed I/O modules, drives and field devices.
Sensors and Instrumentation: For connections between sensors, measuring instruments and associated control equipment.

General Characteristics
Low-Capacitance Signal Integrity: Low-capacitance insulation and balanced pair twist help limit signal attenuation across extended transmission distances.
EMC Interference Shielding: Metallic shielding helps suppress electromagnetic interference and maintain signal integrity in electrically noisy environments.
Mechanical Strength: Provides mechanical strength to withstand handling and installation stresses and help maintain cable integrity.

Standards & Approvals
TIA/EIA-485-A: Balanced differential serial data interface.

Fire Performance
Fire Retardant: IEC 60332-1-2

CASMO Part No.	Conductor			Insulation		Min. Braid Coverage (%)	Cable		Max. DCR @20°C (Ω/km)
	Conductor Size (AWG)	No. Of Strands	Nom. Strand Dia. (mm)	Nom. Ins. Thickness (mm)	Nom. Core O.D. (mm)		Nom. Jkt. Thickness (mm)	Nom. O.D. (mm)	
12300524/7-1P-TS-GY	1P×24	7	0.20	0.55	1.70	80	0.90	5.9	94.2
12300524/7-2P-TS-GY	2P×24	7	0.20	0.55	1.70	80	1.10	8.6	94.2
12300524/7-3P-TS-GY	3P×24	7	0.20	0.55	1.70	80	1.15	9.2	94.2
12300524/7-4P-TS-GY	4P×24	7	0.20	0.55	1.70	80	1.20	10.1	94.2
12300522/7-1P-TS-GY	1P×22	7	0.25	0.65	2.05	80	1.00	7.2	59.4
12300522/7-2P-TS-GY	2P×22	7	0.25	0.65	2.05	80	1.15	9.4	59.4
12300522/7-3P-TS-GY	3P×22	7	0.25	0.65	2.05	80	1.20	10.1	59.4

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12300522/7-4P-TS-GY	4P×22	7	0.25	0.65	2.05	80	1.25	11.1	59.4

Table Notes

* "-TS-" = stranded tinned copper conductor; "-1P" to "-4P" = number of twisted pairs; "-GY" = grey PVC outer sheath (standard).

† Max. DCR @20°C is specified as guaranteed single-conductor maximum per ASTM B33 / UL 1581 (not nominal); maximum DC loop resistance equals 2 × single-conductor DCR (188.4 Ω/km for 24 AWG; 118.8 Ω/km for 22 AWG).

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