



# Application - Single-Phase Motors

## 2- or 3-Wire Cable, 50 Hz (Service Entrance to Motor - Maximum Length In Metres)

Cable for submersible motors must be suitable for submerged operation, and adequate in size to operate within rated temperature and maintain adequate voltage at the motor. Cable may be twisted conductors with or without jacket, or flat molded type. Franklin 50HZ cable selections maintain motor voltage to at least 95% of supply voltage with maximum rated running amps, and maintain acceptable starting voltage and cable temperature.

**Minimum Square Millimetre cable for each rating is based on IEC Publication 364-5-523 (1983 Edition). Jacketed cable is based on Table 52-B1, Installation Method C In Table Using Column C in Table 52-C3 (70°C). Individual conductor is based on Table 52-B2, Installation Method G using Column 6 In Table 52-C10 (70°C).**

**Minimum AWG Cable sizes are based on the National Electrical Code in Table 430-150 for 75°C Cable In 30°C Maximum Ambient. Use Larger Cable if Local Codes Or Higher Temperatures Require It. Lengths in Bold Meet IEC and NEC Ampacity only For Individual Conductor Cables in air or water, not in conduit.**

Tables list the maximum recommended lengths in Meters for square millimeter copper cable sizes. The single-phase tables apply to all three wire types, and control boxes where required, may be at any point in the cable length. The portion of cable from service entrance to a three-phase controller should not exceed 25% of table maximum length to assure reliable starter operation.

**TABLE 11 Single-Phase Maximum Length of Copper Cable (metres)**

Motor Rating			Metric Cable Size - 70° C Insulation - Copper Wire - Square Millimetres										
Volts	KW	HP	1.5	2.5	4	6	10	16	25	35	50	70	95
220 Volt 50Hz.	.25	1/3	190	320	510	770	1260	1970	2960	3990	5340	6970	8750
	.37	1/2	120	210	330	500	820	1290	1950	2640	3560	4680	5910
	.55	3/4	80	140	230	350	580	900	1360	1830	2450	3210	4020
	.75	1.0	60	110	180	270	440	690	1050	1430	1930	2550	3230
	1.1	1.5	40	70	120	190	310	490	750	1020	1390	1860	2380
	1.5	2.0	30	60	100	150	250	400	620	850	1180	1590	2070
	2.2	3.0	<b>20</b>	40	60	100	170	270	410	560	770	1030	1320
	3.7	5.0	0	0	40	60	110	170	260	370	520	710	930

1 Metre = 3.3 feet