

**U.S. Coast Guard and other regulatory agencies require all circuits, except the starting circuit, to be protected with a circuit breaker or a fuse.**

## STEP 1 Choose the Correct Wire

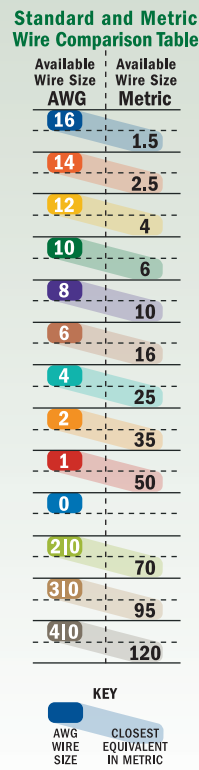
**▲** Locate the **CURRENT FLOW IN AMPS** of your circuit along the top of the chart to the right.

**D** Select the **CIRCUIT TYPE**.

**Find the **CIRCUIT LENGTH** along the left side of the chart.**

**D** Intersect the **CURRENT FLOW IN AMPS** with **CIRCUIT LENGTH** to identify the correct wire size.

**AWG WIRE SIZE CHART** Circles indicate actual diameter of wire (not including insulation)



Circuit Type				Current Flow in Amps																
10% Voltage Drop Non Critical		3% Voltage Drop Critical		5A	10A	15A	20A	25A	30A	40A	50A	60A	70A	80A	90A	100A	120A	150A	200A	
Circuit Length	0 to 20 ft	0 to 6.1 M	0 to 6 ft	0 to 1.8 M	16 AWG	16 AWG	14 AWG	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	6 AWG	4 AWG	4 AWG	4 AWG	2 AWG	1 AWG	2½ AWG
	30 ft	9.1 M	10 ft	3.0 M	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	2 AWG	2 AWG	1 AWG	0 AWG	2½ AWG
	50 ft	15.2 M	15 ft	4.6 M	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	2 AWG	2 AWG	2 AWG	1 AWG	0 AWG	2½ AWG
	65 ft	19.8 M	20 ft	6.1 M	14 AWG	10 AWG	8 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	2½ AWG	3½ AWG
	80 ft	24.4 M	25 ft	7.6 M	12 AWG	8 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	3½ AWG	4½ AWG
	100 ft	30.5 M	30 ft	9.1 M	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	3½ AWG	4½ AWG
	130 ft	39.6 M	40 ft	12.2 M	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
	165 ft	50.3 M	50 ft	15.2 M	4 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
	200 ft	61.0 M	60 ft	18.3 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
			70 ft	21.3 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
			80 ft	24.4 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
			90 ft	27.4 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG
		100 ft	30.5 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG	
		110 ft	33.5 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG	
		120 ft	36.6 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG	
		130 ft	39.6 M	2 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	4½ AWG	4½ AWG	

**A** Choose a fuse from the list on the top of the chart to the right by following along the line of the **AWG WIRE SIZE** determined from Step 1. Appropriate fuses will have a gray bar that intersects the line.

**D** The appropriate fuse amperage will be found in one of the four gray bars below the selected fuse type.

- **Single Wire, Outside Engine Room** = First column dark gray bar
- **Single Wire, Inside Engine Room** = First column light gray bar
- **Bundled Wire, Outside Engine Room** = Second column dark gray bar
- **Bundled Wire, Inside Engine Room** = Second column light gray bar

**Example: For a 4 AWG single 105°C rated wire outside an engine room, the maximum fuse amperage is 150A.**

**Note:**  
Possible fuse amperages for a circuit can fall between a range of maximum and minimum fuse amperages. The procedure above calculates the maximum fuse amperage which reduces nuisance blows but may offer less protection than a lower amperage fuse. The minimum fuse amperage is calculated by multiplying the current flow in amps by 125%.

If the product instructions specify a fuse amperage, use that value if it is under the maximum amperage found in the above procedure. If the specified fuse amperage is over the maximum suggested, move down the column and choose the wire size that intersects with the specified fuse amperage.

LEGEND		AGC® MDL®		ATO® or ATC® Fuse		MAXI™ Fuse		AMI® or MIDI® Fuse		MRBF TERMINAL Fuse		MEGA® or AMG® Fuse		CLASS T Fuse		ANL Fuse		
		Outside Engine Room																
		Inside Engine Room																
		.25A to 30A		1A to 30A		30A to 80A		30A to 200A		30A to 300A		100A to 300A		225A to 400A		35A to 400A		
		SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	SINGLE WIRE	BUNDLED WIRES	
AWG WIRE SIZE	16 AWG	25A	20A	20A	15A													
	14 AWG		30A	25A	20A													
	12 AWG			30A	25A	30A	25A											
	10 AWG							30A	30A									
	8 AWG					50A	40A	30A								35A		
	6 AWG					60A	50A	40A	40A	60A	50A	40A	40A			50A	40A	
	4 AWG					80A	70A	60A	50A	80A	70A	60A	50A			80A	60A	
	2 AWG						80A	70A		125A	100A	80A	70A	125A	100A	130A	100A	
	1 AWG								150A	125A	125A	100A	150A	125A	125A	100A	150A	130A
	0 AWG								200A	175A	150A	125A	200A	175A	150A	125A	200A	175A
	2½ AWG									200A	175A	150A	250A	200A	175A	150A	250A	200A
	3½ AWG										300A	250A	300A	250A	300A	250A	300A	250A
	4½ AWG											300A	250A	300A	250A	300A	250A	300A
														300A	250A	300A	250A	300A
															300A	250A	300A	250A
																300A	250A	300A

**A** Using the same colored headings as in the steps above, follow the columns down to find fuse holders or fuse blocks that meet your specific requirements.

**D** Consider environmental factors:

- Ignition protection is required where flammable vapors may accumulate.

### Example: Engine room and propane locker

**Consult American Boat and Yacht Council (ABYC) E-11.5.3 for Ignition Protection**

- Ignition protection

- Ingress protection protects fuses from spray, washdown, and humidity.

**IP66-protected against powerful water jets**

- **Ingress protection**

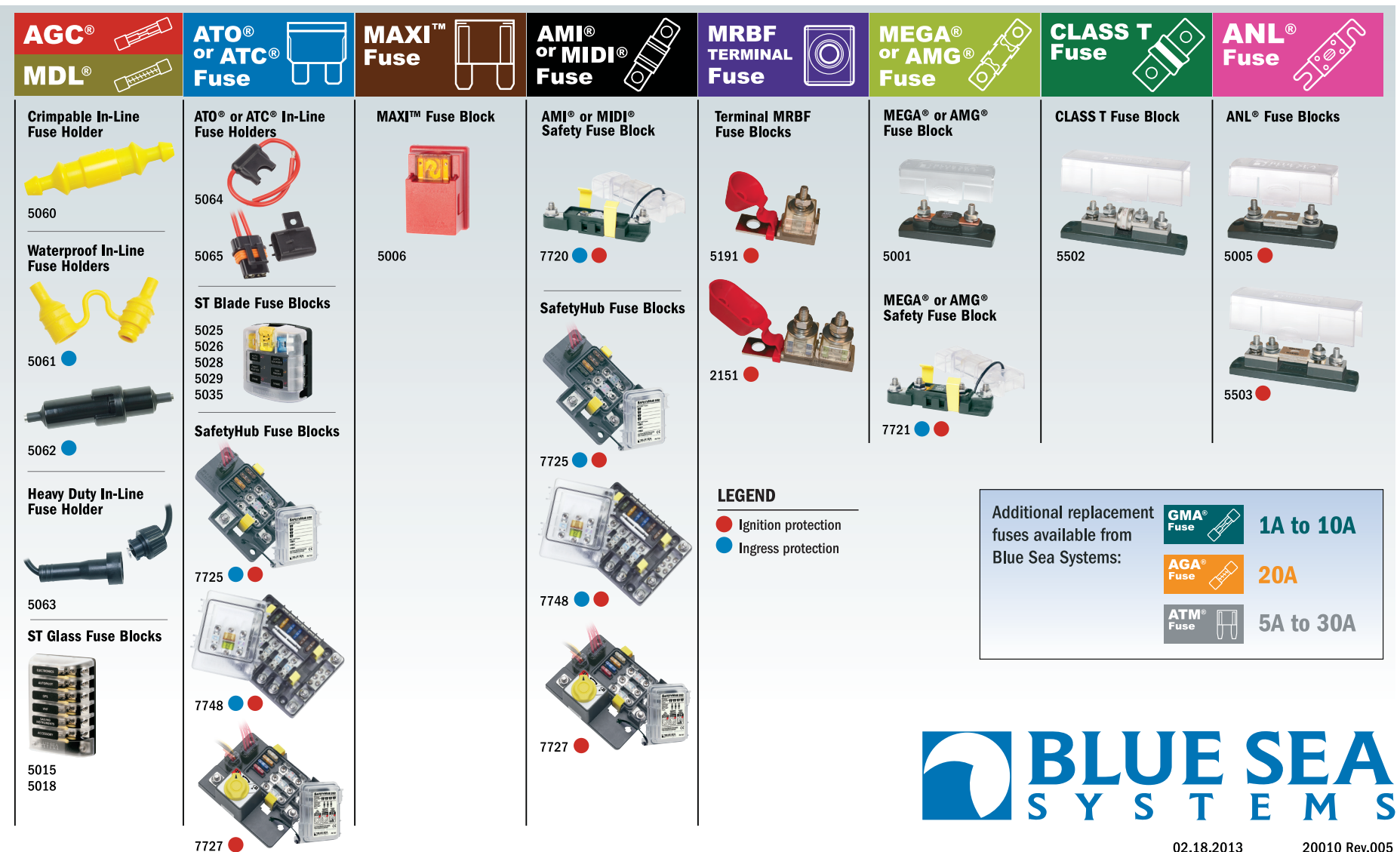
**Decide between an in-line fuse holder or a fuse block:**

- In-line fuse holders are compact and hold a single low-amperage fuse.
- Fuse blocks mount to a solid surface and may hold a single fuse or multiple fuses.

Although this process uses information from ABYC E-11 to recommend wire size and circuit protection, it may not cover all of the unique characteristics that may exist on a boat. If you have specific questions about your installation please consult an ABYC certified installer.

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