

FM2XSH FE180



Areas of Use

Used for communication and instrumentation purpose in electronic systems of marine vehicles. Screening layer protects the transmitting signal against electromagnetic interferences. Halogen-Free and Flame Retardant construction ensure non-corrosive and highly visible environment during a fire. Also, min. 180 minutes of circuit integrity under fire conditions is achieved by its special design.

Cable Construction

| | |
|----------------------------|---|
| Conductor | Stranded Annealed Copper (IEC/EN 60228, Class 2) (tinned copper and/or Class 5 versions are available upon request) |
| Flame Barrier | Mica Tape |
| Insulation | XLPE (IEC 60092-360) |
| Core Colors | Pair: Black / White, Numbered Quad: Black / White / Red / Blue, Numbered |
| Lay-up | Cores are stranded in layers |
| Inner Sheath | HFFR |
| Overall Screen | Galvanised Steel Wire Braid |
| Outer Sheath | HFFR (IEC 60092-360 SHF1), RAL 6018 - Green |
| Reference Standards | IEC 60092-376 |

Technical Properties

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|------------------------------------|---|
| Operating Voltage | 150/250 (300) V |
| Test Voltage | 1.5 kV (a.c) 3.6 kV (d.c) |
| Conductor Resistance | IEC/EN 60228 |
| Insulation Resistance | >5000 M.Ωxkm |
| Temperature Range | -40 °C.....+90 °C |
| Flame Retardancy | IEC/EN 60332-1-2, IEC/EN 60332-3-22 (CAT A) |
| Fire Resistance | IEC 60331-21 |
| Smoke Density | IEC/EN 61034-1+2 |
| Amount of Halogen Acid Gas | IEC/EN 60754-1 |
| Corrosive Gases Measurement | IEC/EN 60754-2 |
| Min. Bending Radius (Fixed) | 8 x Cable Diameter |

Cross Section

| Configuration / Cross-Section (mm/mm ²) | Cable Diameter (mm) (± 5%) | Copper Weight (kg / km) | ~ Cable Weight (kg / km) |
|--|----------------------------|-------------------------|--------------------------|
| 2x2x0.5 | 11.7 | 19 | 162 |
| 2x2x0.5 | 11,7 | 19 | 162 |
| 2x3x0.5 | 12.4 | 28 | 191 |

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| 2x3x0.5 | 12,4 | 28 | 191 |
| 2x4x0.5 | 13,4 | 38 | 231 |
| 2x4x0.5 | 13,4 | 38 | 231 |
| 3x2x0.5 | 12,3 | 28 | 189 |
| 3x2x0.5 | 12,3 | 28 | 189 |
| 3x3x0.5 | 13,1 | 43 | 230 |
| 3x3x0.5 | 13,1 | 43 | 230 |
| 3x4x0.5 | 14,3 | 57 | 281 |
| 3x4x0.5 | 14,3 | 57 | 281 |
| 4x2x0.5 | 13,4 | 38 | 223 |
| 4x2x0.5 | 13,4 | 38 | 223 |
| 4x3x0.5 | 14,3 | 57 | 279 |
| 4x3x0.5 | 14,3 | 57 | 279 |
| 4x4x0.5 | 15,6 | 76 | 338 |
| 4x4x0.5 | 15,6 | 76 | 338 |
| 5x2x0.5 | 14,7 | 47 | 262 |
| 5x2x0.5 | 14,7 | 47 | 262 |
| 5x3x0.5 | 15,7 | 71 | 327 |
| 5x3x0.5 | 15,7 | 71 | 327 |
| 5x4x0.5 | 17,0 | 95 | 402 |
| 5x4x0.5 | 17,0 | 95 | 402 |
| 7x2x0.5 | 16,0 | 66 | 319 |
| 7x2x0.5 | 16,0 | 66 | 319 |
| 7x3x0.5 | 17,0 | 99 | 408 |
| 7x3x0.5 | 17,0 | 99 | 408 |
| 7x4x0.5 | 18,5 | 133 | 507 |
| 7x4x0.5 | 18,5 | 133 | 507 |
| 10x2x0.5 | 20,2 | 95 | 442 |
| 10x2x0.5 | 20,2 | 95 | 442 |
| 10x3x0.5 | 21,6 | 142 | 570 |
| 10x3x0.5 | 21,6 | 142 | 570 |
| 12x2x0.5 | 20,9 | 114 | 495 |
| 12x2x0.5 | 20,9 | 114 | 495 |
| 16x2x0.5 | 23,2 | 152 | 610 |
| 16x2x0.5 | 23,2 | 152 | 610 |
| 19x2x0.5 | 24,5 | 180 | 692 |
| 19x2x0.5 | 24,5 | 180 | 692 |
| 24x2x0.5 | 28,8 | 227 | 868 |
| 24x2x0.5 | 28,8 | 227 | 868 |
| 27x2x0.5 | 29,4 | 256 | 938 |
| 27x2x0.5 | 29,4 | 256 | 938 |
| 37x2x0.5 | 33,0 | 351 | 1210 |
| 37x2x0.5 | 33,0 | 351 | 1210 |
| 2x2x0.75 | 13,1 | 29 | 195 |
| 2x2x0.75 | 13,1 | 29 | 195 |
| 2x3x0.75 | 13,9 | 43 | 240 |

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| 2x3x0.75 | 13,9 | 43 | 240 |
| 2x4x0.75 | 15.1 | 58 | 286 |
| 2x4x0.75 | 15,1 | 58 | 286 |
| 3x2x0.75 | 13.8 | 43 | 233 |
| 3x2x0.75 | 13,8 | 43 | 233 |
| 3x3x0.75 | 14.8 | 65 | 293 |
| 3x3x0.75 | 14,8 | 65 | 293 |
| 3x4x0.75 | 16.1 | 86 | 359 |
| 3x4x0.75 | 16,1 | 86 | 359 |
| 4x2x0.75 | 15.1 | 58 | 281 |
| 4x2x0.75 | 15,1 | 58 | 281 |
| 4x3x0.75 | 16.2 | 86 | 353 |
| 4x3x0.75 | 16,2 | 86 | 353 |
| 4x4x0.75 | 17.7 | 115 | 436 |
| 4x4x0.75 | 17,7 | 115 | 436 |
| 5x2x0.75 | 16.5 | 72 | 328 |
| 5x2x0.75 | 16,5 | 72 | 328 |
| 5x3x0.75 | 17.7 | 108 | 420 |
| 5x3x0.75 | 17,7 | 108 | 420 |
| 5x4x0.75 | 19.4 | 144 | 521 |
| 5x4x0.75 | 19,4 | 144 | 521 |
| 7x2x0.75 | 18.0 | 101 | 408 |
| 7x2x0.75 | 18,0 | 101 | 408 |
| 7x3x0.75 | 19.4 | 151 | 528 |
| 7x3x0.75 | 19,4 | 151 | 528 |
| 7x4x0.75 | 21.2 | 202 | 665 |
| 7x4x0.75 | 21,2 | 202 | 665 |
| 10x2x0.75 | 23.0 | 144 | 572 |
| 10x2x0.75 | 23,0 | 144 | 572 |
| 10x3x0.75 | 24.8 | 216 | 745 |
| 10x3x0.75 | 24,8 | 216 | 745 |
| 12x2x0.75 | 23.9 | 173 | 644 |
| 12x2x0.75 | 23,9 | 173 | 644 |
| 16x2x0.75 | 26.5 | 231 | 755 |
| 16x2x0.75 | 26,5 | 231 | 755 |
| 19x2x0.75 | 28.0 | 274 | 866 |
| 19x2x0.75 | 28,0 | 274 | 866 |
| 24x2x0.75 | 33.0 | 346 | 1151 |
| 24x2x0.75 | 33,0 | 346 | 1151 |
| 27x2x0.75 | 33.8 | 389 | 1244 |
| 27x2x0.75 | 33,8 | 389 | 1244 |
| 37x2x0.75 | 37.9 | 533 | 1560 |
| 37x2x0.75 | 37,9 | 533 | 1560 |
| 2x2x1 | 13.7 | 39 | 216 |
| 2x2x1 | 13,7 | 39 | 216 |
| 2x3x1 | 14.6 | 58 | 267 |

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|---------|------|-----|------|
| 2x3x1 | 14,6 | 58 | 267 |
| 2x4x1 | 15,9 | 78 | 322 |
| 2x4x1 | 15,9 | 78 | 322 |
| 3x2x1 | 14,6 | 58 | 265 |
| 3x2x1 | 14,6 | 58 | 265 |
| 3x3x1 | 15,5 | 88 | 331 |
| 3x3x1 | 15,5 | 88 | 331 |
| 3x4x1 | 16,9 | 117 | 409 |
| 3x4x1 | 16,9 | 117 | 409 |
| 4x2x1 | 16,0 | 78 | 318 |
| 4x2x1 | 16,0 | 78 | 318 |
| 4x3x1 | 17,0 | 117 | 406 |
| 4x3x1 | 17,0 | 117 | 406 |
| 4x4x1 | 18,5 | 156 | 505 |
| 4x4x1 | 18,5 | 156 | 505 |
| 5x2x1 | 17,5 | 97 | 373 |
| 5x2x1 | 17,5 | 97 | 373 |
| 5x3x1 | 18,6 | 146 | 481 |
| 5x3x1 | 18,6 | 146 | 481 |
| 5x4x1 | 20,4 | 195 | 599 |
| 5x4x1 | 20,4 | 195 | 599 |
| 7x2x1 | 19,1 | 136 | 467 |
| 7x2x1 | 19,1 | 136 | 467 |
| 7x3x1 | 20,4 | 204 | 613 |
| 7x3x1 | 20,4 | 204 | 613 |
| 7x4x1 | 22,3 | 273 | 770 |
| 7x4x1 | 22,3 | 273 | 770 |
| 10x2x1 | 24,4 | 195 | 659 |
| 10x2x1 | 24,4 | 195 | 659 |
| 10x3x1 | 26,2 | 292 | 820 |
| 10x3x1 | 26,2 | 292 | 820 |
| 12x2x1 | 25,2 | 234 | 742 |
| 12x2x1 | 25,2 | 234 | 742 |
| 16x2x1 | 28,1 | 311 | 880 |
| 16x2x1 | 28,1 | 311 | 880 |
| 19x2x1 | 29,7 | 370 | 1068 |
| 19x2x1 | 29,7 | 370 | 1068 |
| 24x2x1 | 35,0 | 467 | 1337 |
| 24x2x1 | 35,0 | 467 | 1337 |
| 27x2x1 | 35,9 | 526 | 1459 |
| 27x2x1 | 35,9 | 526 | 1459 |
| 37x2x1 | 40,4 | 720 | 1847 |
| 37x2x1 | 40,4 | 720 | 1847 |
| 2x2x1.5 | 15,4 | 57 | 271 |
| 2x2x1.5 | 15,4 | 57 | 271 |
| 2x3x1.5 | 16,4 | 85 | 336 |

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|----------|------|------|------|
| 2x3x1.5 | 16,4 | 85 | 336 |
| 2x4x1.5 | 18,0 | 114 | 413 |
| 2x4x1.5 | 18,0 | 114 | 413 |
| 3x2x1.5 | 16,3 | 85 | 332 |
| 3x2x1.5 | 16,3 | 85 | 332 |
| 3x3x1.5 | 17,5 | 128 | 425 |
| 3x3x1.5 | 17,5 | 128 | 425 |
| 3x4x1.5 | 19,2 | 171 | 529 |
| 3x4x1.5 | 19,2 | 171 | 529 |
| 4x2x1.5 | 17,9 | 114 | 405 |
| 4x2x1.5 | 17,9 | 114 | 405 |
| 4x3x1.5 | 19,2 | 171 | 525 |
| 4x3x1.5 | 19,2 | 171 | 525 |
| 4x4x1.5 | 21,1 | 228 | 657 |
| 4x4x1.5 | 21,1 | 228 | 657 |
| 5x2x1.5 | 19,6 | 142 | 479 |
| 5x2x1.5 | 19,6 | 142 | 479 |
| 5x3x1.5 | 21,0 | 214 | 624 |
| 5x3x1.5 | 21,0 | 214 | 624 |
| 5x4x1.5 | 23,2 | 285 | 786 |
| 5x4x1.5 | 23,2 | 285 | 786 |
| 7x2x1.5 | 21,5 | 199 | 605 |
| 7x2x1.5 | 21,5 | 199 | 605 |
| 7x3x1.5 | 23,1 | 299 | 802 |
| 7x3x1.5 | 23,1 | 299 | 802 |
| 7x4x1.5 | 25,4 | 399 | 965 |
| 7x4x1.5 | 25,4 | 399 | 965 |
| 10x2x1.5 | 27,7 | 285 | 807 |
| 10x2x1.5 | 27,7 | 285 | 807 |
| 10x3x1.5 | 29,7 | 427 | 1145 |
| 10x3x1.5 | 29,7 | 427 | 1145 |
| 12x2x1.5 | 28,6 | 342 | 970 |
| 12x2x1.5 | 28,6 | 342 | 970 |
| 16x2x1.5 | 31,9 | 455 | 1224 |
| 16x2x1.5 | 31,9 | 455 | 1224 |
| 19x2x1.5 | 33,7 | 541 | 1403 |
| 19x2x1.5 | 33,7 | 541 | 1403 |
| 24x2x1.5 | 39,9 | 683 | 1723 |
| 24x2x1.5 | 39,9 | 683 | 1723 |
| 27x2x1.5 | 41,2 | 769 | 2029 |
| 27x2x1.5 | 41,2 | 769 | 2029 |
| 37x2x1.5 | 46,5 | 1053 | 2644 |
| 37x2x1.5 | 46,5 | 1053 | 2644 |
| 2x2x2.5 | 16,8 | 92 | 335 |
| 2x2x2.5 | 16,8 | 92 | 335 |
| 2x3x2.5 | 18,1 | 138 | 424 |

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|----------|------|------|------|
| 2x3x2.5 | 18,1 | 138 | 424 |
| 2x4x2.5 | 19,8 | 183 | 526 |
| 2x4x2.5 | 19,8 | 183 | 526 |
| 3x2x2.5 | 17,8 | 138 | 421 |
| 3x2x2.5 | 17,8 | 138 | 421 |
| 3x3x2.5 | 19,2 | 206 | 548 |
| 3x3x2.5 | 19,2 | 206 | 548 |
| 3x4x2.5 | 21,1 | 275 | 683 |
| 3x4x2.5 | 21,1 | 275 | 683 |
| 4x2x2.5 | 19,7 | 183 | 517 |
| 4x2x2.5 | 19,7 | 183 | 517 |
| 4x3x2.5 | 21,2 | 275 | 681 |
| 4x3x2.5 | 21,2 | 275 | 681 |
| 4x4x2.5 | 23,3 | 367 | 859 |
| 4x4x2.5 | 23,3 | 367 | 859 |
| 5x2x2.5 | 21,6 | 229 | 618 |
| 5x2x2.5 | 21,6 | 229 | 618 |
| 5x3x2.5 | 23,2 | 344 | 819 |
| 5x3x2.5 | 23,2 | 344 | 819 |
| 5x4x2.5 | 25,6 | 459 | 987 |
| 5x4x2.5 | 25,6 | 459 | 987 |
| 7x2x2.5 | 23,6 | 321 | 790 |
| 7x2x2.5 | 23,6 | 321 | 790 |
| 7x3x2.5 | 25,4 | 482 | 1016 |
| 7x3x2.5 | 25,4 | 482 | 1016 |
| 7x4x2.5 | 28,1 | 642 | 1306 |
| 7x4x2.5 | 28,1 | 642 | 1306 |
| 10x2x2.5 | 30,5 | 459 | 1126 |
| 10x2x2.5 | 30,5 | 459 | 1126 |
| 10x3x2.5 | 32,9 | 688 | 1523 |
| 10x3x2.5 | 32,9 | 688 | 1523 |
| 12x2x2.5 | 31,5 | 550 | 1283 |
| 12x2x2.5 | 31,5 | 550 | 1283 |
| 16x2x2.5 | 35,3 | 734 | 1629 |
| 16x2x2.5 | 35,3 | 734 | 1629 |
| 19x2x2.5 | 37,3 | 871 | 1826 |
| 19x2x2.5 | 37,3 | 871 | 1826 |
| 24x2x2.5 | 44,6 | 1101 | 2482 |
| 24x2x2.5 | 44,6 | 1101 | 2482 |
| 27x2x2.5 | 45,7 | 1238 | 2712 |
| 27x2x2.5 | 45,7 | 1238 | 2712 |
| 37x2x2.5 | 51,4 | 1697 | 3558 |
| 37x2x2.5 | 51,4 | 1697 | 3558 |

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