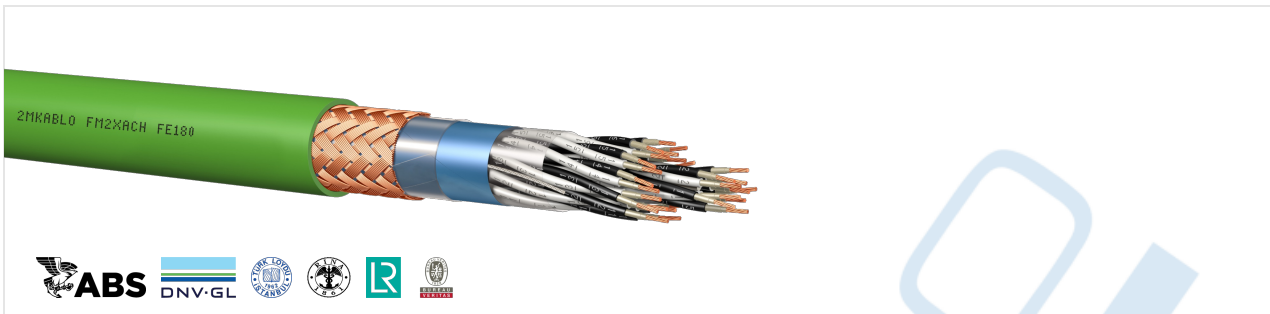


FM2XACH FE180



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 |
| Separator | PET Foil |
| 1. Overall Screen | Al-PET Foil (with Tinned Copper Drain Wire) |
| Separator | PET Foil (HFFR filler upon request) |
| 2. Overall Screen | Annealed Copper Wire Braid (90% Coverage) |
| Outer Sheath | HFFR (IEC 60092-360 SHF1), RAL 6018 - Green |
| Reference Standards | IEC 60092-376 |

Technical Properties

| | |
|------------------------------------|---|
| 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/mm²) | Cable Diameter (mm) (± 5%) | Copper Weight (kg / km) | ~ Cable Weight (kg / km) |
|--|-----------------------------------|--------------------------------|---------------------------------|

| | | | |
|----------|------|-----|-----|
| 1x2x0.5 | 7.5 | 39 | 82 |
| 1x2x0.5 | 7,5 | 39 | 82 |
| 1x3x0.5 | 7.9 | 45 | 95 |
| 1x3x0.5 | 7,9 | 45 | 95 |
| 1x4x0.5 | 8.4 | 52 | 110 |
| 1x4x0.5 | 8,4 | 52 | 110 |
| 2x2x0.5 | 10.5 | 62 | 134 |
| 2x2x0.5 | 10,5 | 62 | 134 |
| 2x3x0.5 | 11.7 | 76 | 164 |
| 2x3x0.5 | 11,7 | 76 | 164 |
| 2x4x0.5 | 14.1 | 98 | 215 |
| 2x4x0.5 | 14,1 | 98 | 215 |
| 3x2x0.5 | 11.1 | 73 | 158 |
| 3x2x0.5 | 11,1 | 73 | 158 |
| 3x3x0.5 | 12.3 | 94 | 200 |
| 3x3x0.5 | 12,3 | 94 | 200 |
| 3x4x0.5 | 15.5 | 153 | 298 |
| 3x4x0.5 | 15,5 | 153 | 298 |
| 4x2x0.5 | 12.1 | 89 | 189 |
| 4x2x0.5 | 12,1 | 89 | 189 |
| 4x3x0.5 | 13.5 | 113 | 240 |
| 4x3x0.5 | 13,5 | 113 | 240 |
| 4x4x0.5 | 16.9 | 182 | 356 |
| 4x4x0.5 | 16,9 | 182 | 356 |
| 5x2x0.5 | 13.2 | 103 | 219 |
| 5x2x0.5 | 13,2 | 103 | 219 |
| 5x3x0.5 | 15.1 | 165 | 317 |
| 5x3x0.5 | 15,1 | 165 | 317 |
| 5x4x0.5 | 18.5 | 212 | 417 |
| 5x4x0.5 | 18,5 | 212 | 417 |
| 7x2x0.5 | 14.8 | 157 | 303 |
| 7x2x0.5 | 14,8 | 157 | 303 |
| 7x3x0.5 | 16.5 | 201 | 389 |
| 7x3x0.5 | 16,5 | 201 | 389 |
| 7x4x0.5 | 20.3 | 261 | 515 |
| 7x4x0.5 | 20,3 | 261 | 515 |
| 10x2x0.5 | 18.6 | 212 | 418 |
| 10x2x0.5 | 18,6 | 212 | 418 |
| 10x3x0.5 | 20.9 | 276 | 543 |
| 10x3x0.5 | 20,9 | 276 | 543 |
| 12x2x0.5 | 19.2 | 235 | 462 |
| 12x2x0.5 | 19,2 | 235 | 462 |
| 16x2x0.5 | 21.3 | 288 | 568 |
| 16x2x0.5 | 21,3 | 288 | 568 |
| 19x2x0.5 | 22.4 | 324 | 639 |
| 19x2x0.5 | 22,4 | 324 | 639 |

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| 24x2x0.5 | 26.3 | 398 | 798 |
| 24x2x0.5 | 26,3 | 398 | 798 |
| 27x2x0.5 | 26.9 | 432 | 863 |
| 27x2x0.5 | 26,9 | 432 | 863 |
| 37x2x0.5 | 30.1 | 547 | 1096 |
| 37x2x0.5 | 30,1 | 547 | 1096 |
| 1x2x0.75 | 8.3 | 49 | 101 |
| 1x2x0.75 | 8,3 | 49 | 101 |
| 1x3x0.75 | 8.9 | 58 | 118 |
| 1x3x0.75 | 8,9 | 58 | 118 |
| 1x4x0.75 | 9.5 | 68 | 139 |
| 1x4x0.75 | 9,5 | 68 | 139 |
| 2x2x0.75 | 12.0 | 78 | 167 |
| 2x2x0.75 | 12,0 | 78 | 167 |
| 2x3x0.75 | 13.3 | 100 | 211 |
| 2x3x0.75 | 13,3 | 100 | 211 |
| 2x4x0.75 | 16.7 | 162 | 314 |
| 2x4x0.75 | 16,7 | 162 | 314 |
| 3x2x0.75 | 12.6 | 97 | 202 |
| 3x2x0.75 | 12,6 | 97 | 202 |
| 3x3x0.75 | 14.1 | 125 | 259 |
| 3x3x0.75 | 14,1 | 125 | 259 |
| 3x4x0.75 | 17.8 | 198 | 381 |
| 3x4x0.75 | 17,8 | 198 | 381 |
| 4x2x0.75 | 13.8 | 117 | 243 |
| 4x2x0.75 | 13,8 | 117 | 243 |
| 4x3x0.75 | 15.8 | 186 | 350 |
| 4x3x0.75 | 15,8 | 186 | 350 |
| 4x4x0.75 | 19.5 | 239 | 461 |
| 4x4x0.75 | 19,5 | 239 | 461 |
| 5x2x0.75 | 15.5 | 169 | 321 |
| 5x2x0.75 | 15,5 | 169 | 321 |
| 5x3x0.75 | 17.3 | 218 | 412 |
| 5x3x0.75 | 17,3 | 218 | 412 |
| 5x4x0.75 | 21.4 | 281 | 544 |
| 5x4x0.75 | 21,4 | 281 | 544 |
| 7x2x0.75 | 16.9 | 207 | 392 |
| 7x2x0.75 | 16,9 | 207 | 392 |
| 7x3x0.75 | 18.9 | 271 | 512 |
| 7x3x0.75 | 18,9 | 271 | 512 |
| 7x4x0.75 | 23.5 | 352 | 680 |
| 7x4x0.75 | 23,5 | 352 | 680 |
| 10x2x0.75 | 21.5 | 282 | 546 |
| 10x2x0.75 | 21,5 | 282 | 546 |
| 10x3x0.75 | 24.1 | 372 | 718 |
| 10x3x0.75 | 24,1 | 372 | 718 |

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| 12x2x0.75 | 22.2 | 316 | 609 |
| 12x2x0.75 | 22,2 | 316 | 609 |
| 16x2x0.75 | 24.6 | 390 | 754 |
| 16x2x0.75 | 24,6 | 390 | 754 |
| 19x2x0.75 | 26.0 | 443 | 854 |
| 19x2x0.75 | 26,0 | 443 | 854 |
| 24x2x0.75 | 30.6 | 548 | 1073 |
| 24x2x0.75 | 30,6 | 548 | 1073 |
| 27x2x0.75 | 31.3 | 598 | 1163 |
| 27x2x0.75 | 31,3 | 598 | 1163 |
| 37x2x0.75 | 35.1 | 760 | 1486 |
| 37x2x0.75 | 35,1 | 760 | 1486 |
| 1x2x1 | 8.8 | 58 | 113 |
| 1x2x1 | 8,8 | 58 | 113 |
| 1x3x1 | 9.2 | 70 | 134 |
| 1x3x1 | 9,2 | 70 | 134 |
| 1x4x1 | 10.0 | 83 | 159 |
| 1x4x1 | 10,0 | 83 | 159 |
| 2x2x1 | 12.6 | 95 | 190 |
| 2x2x1 | 12,6 | 95 | 190 |
| 2x3x1 | 14.0 | 120 | 240 |
| 2x3x1 | 14,0 | 120 | 240 |
| 2x4x1 | 17.7 | 191 | 356 |
| 2x4x1 | 17,7 | 191 | 356 |
| 3x2x1 | 13.4 | 118 | 231 |
| 3x2x1 | 13,4 | 118 | 231 |
| 3x3x1 | 15.3 | 185 | 333 |
| 3x3x1 | 15,3 | 185 | 333 |
| 3x4x1 | 18.7 | 238 | 437 |
| 3x4x1 | 18,7 | 238 | 437 |
| 4x2x1 | 15.1 | 174 | 314 |
| 4x2x1 | 15,1 | 174 | 314 |
| 4x3x1 | 16.8 | 224 | 403 |
| 4x3x1 | 16,8 | 224 | 403 |
| 4x4x1 | 20.7 | 290 | 531 |
| 4x4x1 | 20,7 | 290 | 531 |
| 5x2x1 | 16.4 | 202 | 366 |
| 5x2x1 | 16,4 | 202 | 366 |
| 5x3x1 | 18.3 | 264 | 475 |
| 5x3x1 | 18,3 | 264 | 475 |
| 5x4x1 | 22.7 | 342 | 630 |
| 5x4x1 | 22,7 | 342 | 630 |
| 7x2x1 | 17.9 | 251 | 452 |
| 7x2x1 | 17,9 | 251 | 452 |
| 7x3x1 | 20.0 | 333 | 596 |
| 7x3x1 | 20,0 | 333 | 596 |

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|---------|------|-----|------|
| 7x4x1 | 24.8 | 434 | 792 |
| 7x4x1 | 24,8 | 434 | 792 |
| 10x2x1 | 22.7 | 342 | 631 |
| 10x2x1 | 22,7 | 342 | 631 |
| 10x3x1 | 25.6 | 459 | 838 |
| 10x3x1 | 25,6 | 459 | 838 |
| 12x2x1 | 23.6 | 386 | 707 |
| 12x2x1 | 23,6 | 386 | 707 |
| 16x2x1 | 26.1 | 482 | 879 |
| 16x2x1 | 26,1 | 482 | 879 |
| 19x2x1 | 27.6 | 550 | 1001 |
| 19x2x1 | 27,6 | 550 | 1001 |
| 24x2x1 | 32.5 | 681 | 1257 |
| 24x2x1 | 32,5 | 681 | 1257 |
| 27x2x1 | 33.2 | 741 | 1361 |
| 27x2x1 | 33,2 | 741 | 1361 |
| 37x2x1 | 37.4 | 968 | 1766 |
| 37x2x1 | 37,4 | 968 | 1766 |
| 1x2x1.5 | 9.7 | 72 | 139 |
| 1x2x1.5 | 9,7 | 72 | 139 |
| 1x3x1.5 | 10.4 | 89 | 167 |
| 1x3x1.5 | 10,4 | 89 | 167 |
| 1x4x1.5 | 11.2 | 108 | 200 |
| 1x4x1.5 | 11,2 | 108 | 200 |
| 2x2x1.5 | 14.7 | 152 | 274 |
| 2x2x1.5 | 14,7 | 152 | 274 |
| 2x3x1.5 | 16.3 | 191 | 343 |
| 2x3x1.5 | 16,3 | 191 | 343 |
| 2x4x1.5 | 20.1 | 246 | 453 |
| 2x4x1.5 | 20,1 | 246 | 453 |
| 3x2x1.5 | 15.5 | 187 | 332 |
| 3x2x1.5 | 15,5 | 187 | 332 |
| 3x3x1.5 | 17.4 | 242 | 427 |
| 3x3x1.5 | 17,4 | 242 | 427 |
| 3x4x1.5 | 21.4 | 312 | 564 |
| 3x4x1.5 | 21,4 | 312 | 564 |
| 4x2x1.5 | 17.0 | 226 | 401 |
| 4x2x1.5 | 17,0 | 226 | 401 |
| 4x3x1.5 | 19.1 | 297 | 522 |
| 4x3x1.5 | 19,1 | 297 | 522 |
| 4x4x1.5 | 23.6 | 386 | 694 |
| 4x4x1.5 | 23,6 | 386 | 694 |
| 5x2x1.5 | 18.6 | 265 | 470 |
| 5x2x1.5 | 18,6 | 265 | 470 |
| 5x3x1.5 | 20.9 | 352 | 619 |
| 5x3x1.5 | 20,9 | 352 | 619 |

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|----------|------|------|------|
| 5x4x1.5 | 26.0 | 459 | 826 |
| 5x4x1.5 | 26,0 | 459 | 826 |
| 7x2x1.5 | 20.4 | 333 | 587 |
| 7x2x1.5 | 20,4 | 333 | 587 |
| 7x3x1.5 | 22.8 | 451 | 786 |
| 7x3x1.5 | 22,8 | 451 | 786 |
| 7x4x1.5 | 28.5 | 590 | 1049 |
| 7x4x1.5 | 28,5 | 590 | 1049 |
| 10x2x1.5 | 26.1 | 459 | 827 |
| 10x2x1.5 | 26,1 | 459 | 827 |
| 10x3x1.5 | 29.4 | 624 | 1112 |
| 10x3x1.5 | 29,4 | 624 | 1112 |
| 12x2x1.5 | 27.0 | 522 | 931 |
| 12x2x1.5 | 27,0 | 522 | 931 |
| 16x2x1.5 | 30.0 | 657 | 1169 |
| 16x2x1.5 | 30,0 | 657 | 1169 |
| 19x2x1.5 | 31.8 | 755 | 1336 |
| 19x2x1.5 | 31,8 | 755 | 1336 |
| 24x2x1.5 | 37.5 | 939 | 1686 |
| 24x2x1.5 | 37,5 | 939 | 1686 |
| 27x2x1.5 | 38.7 | 1114 | 1926 |
| 27x2x1.5 | 38,7 | 1114 | 1926 |
| 37x2x1.5 | 43.7 | 1444 | 2494 |
| 37x2x1.5 | 43,7 | 1444 | 2494 |
| 1x2x2.5 | 10.7 | 95 | 172 |
| 1x2x2.5 | 10,7 | 95 | 172 |
| 1x3x2.5 | 11.3 | 121 | 211 |
| 1x3x2.5 | 11,3 | 121 | 211 |
| 1x4x2.5 | 12.3 | 149 | 256 |
| 1x4x2.5 | 12,3 | 149 | 256 |
| 2x2x2.5 | 16.2 | 199 | 340 |
| 2x2x2.5 | 16,2 | 199 | 340 |
| 2x3x2.5 | 18.0 | 257 | 434 |
| 2x3x2.5 | 18,0 | 257 | 434 |
| 2x4x2.5 | 22.3 | 332 | 574 |
| 2x4x2.5 | 22,3 | 332 | 574 |
| 3x2x2.5 | 17.2 | 251 | 421 |
| 3x2x2.5 | 17,2 | 251 | 421 |
| 3x3x2.5 | 19.2 | 335 | 551 |
| 3x3x2.5 | 19,2 | 335 | 551 |
| 3x4x2.5 | 23.8 | 436 | 731 |
| 3x4x2.5 | 23,8 | 436 | 731 |
| 4x2x2.5 | 18.9 | 310 | 514 |
| 4x2x2.5 | 18,9 | 310 | 514 |
| 4x3x2.5 | 21.1 | 417 | 681 |
| 4x3x2.5 | 21,1 | 417 | 681 |

| | | | |
|----------|------|------|------|
| 4x4x2.5 | 26.3 | 544 | 906 |
| 4x4x2.5 | 26,3 | 544 | 906 |
| 5x2x2.5 | 20.7 | 367 | 609 |
| 5x2x2.5 | 20,7 | 367 | 609 |
| 5x3x2.5 | 23.2 | 500 | 813 |
| 5x3x2.5 | 23,2 | 500 | 813 |
| 5x4x2.5 | 29.0 | 655 | 1087 |
| 5x4x2.5 | 29,0 | 655 | 1087 |
| 7x2x2.5 | 22.6 | 472 | 771 |
| 7x2x2.5 | 22,6 | 472 | 771 |
| 7x3x2.5 | 25.4 | 654 | 1048 |
| 7x3x2.5 | 25,4 | 654 | 1048 |
| 7x4x2.5 | 31.8 | 860 | 1405 |
| 7x4x2.5 | 31,8 | 860 | 1405 |
| 10x2x2.5 | 29.1 | 656 | 1091 |
| 10x2x2.5 | 29,1 | 656 | 1091 |
| 10x3x2.5 | 32.8 | 910 | 1488 |
| 10x3x2.5 | 32,8 | 910 | 1488 |
| 12x2x2.5 | 30.0 | 754 | 1238 |
| 12x2x2.5 | 30,0 | 754 | 1238 |
| 16x2x2.5 | 33.6 | 966 | 1572 |
| 16x2x2.5 | 33,6 | 966 | 1572 |
| 19x2x2.5 | 35.5 | 1110 | 1800 |
| 19x2x2.5 | 35,5 | 1110 | 1800 |
| 24x2x2.5 | 42.4 | 1485 | 2383 |
| 24x2x2.5 | 42,4 | 1485 | 2383 |
| 27x2x2.5 | 43.4 | 1628 | 2599 |
| 27x2x2.5 | 43,4 | 1628 | 2599 |
| 37x2x2.5 | 48.9 | 2138 | 3393 |
| 37x2x2.5 | 48,9 | 2138 | 3393 |

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