

Motion controller

Tabella posizione

La finestra motion controller è usata per specificare le sequenze di movimento. Si basa su tabelle di 10 righe. Ogni riga configura il task di movimento con questi parametri:

Voce

Tipo di movimento: trapezoidale, triangolare, polinomiale, sinusoidale o forza

Posizione target

Tempo di accelerazione, decelerazione e velocità costante a seconda del profilo di movimento usato

Tempo di attesa

Modalità trigger: automatico, fronte di salita, fronte di discesa, livello alto e basso dell'ingresso trigger (Ingresso digitale 1)

The screenshot displays the NiLAB Motion Controller software interface. The main window is titled "Motion controller" and contains several tabs: "Motion Table", "Controller configuration", "Scope", "Parameter", "Communication", "Diagnostic", "Expert", "Parallel Motion", "Surveillance", "uPLC Editor", and "Dump". The "Motion Table" tab is active, showing a table with 10 rows for configuring motion tasks. Each row includes fields for Index, Motion type, Position, Acceleration time (A), Constant speed time (B), Deceleration time (C), Waiting time, and Trigger mode. The table is currently empty, with the first row (Index 0) showing a "Trapezoidal" motion type and a position of 10,000 mm. The right sidebar contains "Motion mode" (set to 1 Maps: 10 positions per map), "Motion parameter" (Cycle time: 400 ms, Motion per minute: 150, Duty motion: 50%), and "Digital input and output Configuration" (Digital Output 0, 1, 2, and I/O control). The bottom section shows "Motion control" (START MOTION, STOP MOTION, Modbus SYNC by Register, Modbus Broadcast SYNC) and "Analog Input" (Analog Input 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000).

The screenshot shows the NiLAB Starter Configuration Tool interface. The top bar includes buttons for 'Open', 'Save', 'Copy', 'COM2', 'Disconnect from Motor', 'Download to drive', and 'Upload from drive'. The main window is divided into several sections:

- Left Panel:** Contains the 'STATUS' section with 'ON' and 'OFF' buttons, a 'FAULT RESET' button, and 'RESET AUTOMATIC/HOMING' buttons. Below this is the 'Digital input and output state' section with DGT IN/OUT indicators and a 'Show Variables' section with numerical readouts for motor feedback position, velocity, and current.
- Motion Table:** A table with columns for Index, Motion type, Position, Acceleration time, Constant speed time, Deceleration time, Waiting, and Trigger mode. It lists 10 motion segments (1793 to 1892) with various parameters.
- Motion mode:** A section on the right showing 'Motion mode' set to '1 Maps - 10 positions per map' and 'Motion parameter' settings like Cycle time (400 ms), Motion per minute (150), and Duty motion (50%).
- Digital input and output Configuration:** A section showing digital output configurations for Drive-Enable, Drive-Fast, and Digital Output 1, 2, and 3.
- Analog Input:** A section showing analog input configurations for Analog Input 1, 2, and 3.
- Legenda:** A section at the bottom right explaining the color coding for the motion table: orange for 'Value changed and not downloaded', green for 'Value downloaded / uploaded correctly', and blue for 'Load/Write motion controller data from/to motor'.

SI PREGA, PER MEMORIZZARE PERMANENTEMENTE LA CONFIGURAZIONE - PREMERE WRITE CONFIGURATION TO FLASH

The screenshot shows the NiLAB Starter Configuration Tool interface with the 'Homing Setup' and 'Flash Memory Command' sections highlighted.

- Homing Setup:** A section on the left showing homing parameters such as Homing current threshold (500 mA), Homing speed (60 mm/s), Invert zero position (checked), Trigger mode (On mechanical stop), Homing Current Filter constant (100), Homing Speed and Current Kp Gain (2500), Homing Speed and Current Ki Integral (50), Forward homing offset (500 microns), and Backward homing offset (0 microns).
- Supply and MODBUS/CAN:** A section showing drive power supply (24 Volts), Device ID (1), Modbus baudrate (3 x 38400), and CanOPEN Baudrate (3 x 1 Mbit/sec).
- Homing methods:** A section on the right showing diagrams for Mechanical Stop trigger, NE / NC Sensor Trigger, and Proximity Switch.
- Production Parameter:** A section showing motor serial number (0), Manufactured in (0 Month, 0 Year), and Tracking minimum time (0 msec).
- Additional motion parameters:** A section showing In Position window size (0 +/- microns), Soft Landing (vertical axis) (checked), and Tracking minimum time (0 msec).
- Flash Memory Command:** A section at the bottom right with three buttons: 'Write configuration to flash' (blue), 'Read configuration from flash' (green), and 'Drive Reset' (orange). A purple arrow points to the 'Write configuration to flash' button.

From:
<https://www.nilab.at/dokuwiki/> - **NiLAB GmbH Knowledgebase**

Permanent link:
https://www.nilab.at/dokuwiki/doku.php?id=it:nilab_starter:motion_controller

Last update: 2026/09/12 00:06

