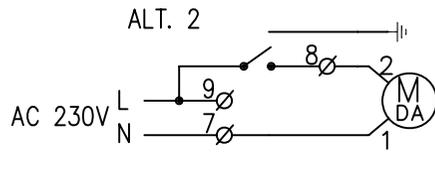
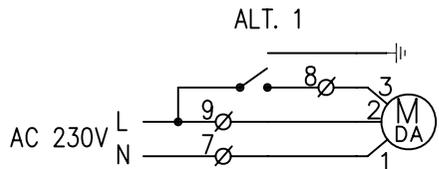


CONNECTION DAMPER



2	TEGNING ENDRET 2007-10-25/LA	Changes	Date/Sign.
1	TEGNING ENDRET 2005-08-23/LA		
Symb.:			

No. Unit No.	Pos. No.	Name, type, dim.	Drawing no. Standard	Art. No.	Matr. Spec.
Date	10.02.04	Drawn T. I. Engen	Projection	Scale	
Checked		Appr.			
CONNECTOR DIAGRAM CS1000				Replaces:	Replaced by:
WATER HEATER					
ART.NO.:93511				342076	Side:



CONNECTIONS TERMINAL AND COMPONENTS

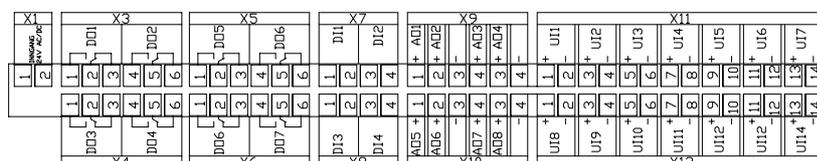
CS1000 Function IO		IO type	Connection CS1000	Connection components
Relay outputs				
DO1	Pump (water battery)/ Heat stage2 (electric battery)	Digital	X3 (Pin 1,2)	X:35, X:40 X:41, K2-A1
DO2	Heat stage3 (electric battery)	Digital	X3 (Pin 4,5)	
DO3	Fan start/stop-internal	Digital	X4 (Pin 1,2)	X:43, G0 *
DO4	Outdoor air damper	Digital	X4 (Pin 4,5)	X:8, X:35
DO5	Cooling dx stage1	Digital	X5 (Pin 1,2)	X:16, X:17
DO6	Cooling dx stage2	Digital	X5 (Pin 4,5)	X:18, X:19
DO7	Alarm output priority A	Digital	X6 (Pin 1,2)	X:3, X:4
DO8	Alarm output priority B	Digital	X6 (Pin 4,5)	X:5, X:6
Analog outputs				
AO1	Cooling	Analog (0 - 10V)	X9 (Pin 1,3)	X:20, G0
AO2	Heating FULL Range water battery	Analog (0 - 10V)	X9 (Pin 2,3)	X:36, G0
AO3	Pulse width Modulating 0 or 10V (ON/OFF)	Analog (0/10VDC)	X9 (Pin 4,6)	X:SSR1-2 A1, G0
AO4	Rotor (Heat/Cool Recovery) or Damper	Analog (0 - 10 V)	X9 (Pin 5,6)	SP1500(X:33), G0 Damper led.3, G0
AO5	Supply air fan. Freq. Conv.	Analog (0 - 10 V)	X10 (Pin 1,3)	FanSup X:4, G0 **
AO6	Extract air fan Freq. Conv.	Analog (0 - 10 V)	X10 (Pin 2,3)	FanExt X:4, G0 **
AO7	Air volume indication extract air	Analog (0 - 10 V)	X10 (Pin 4,6)	
AO8	Air volume indication supply air	Analog (0 - 10 V)	X10 (Pin 5,6)	
Binary inputs				
DI1	Plate heat exchanger: Overheating thermostat With rotor: Rotor alarm	Digital	X7 (Pin 1,2)	Thermostat F20 SP1500X:42,SP1500X:43
DI2	Alarm external fire/smoke	Digital	X7 (Pin 3,4)	X:1, X:2
DI3	Alarm fan supply/extract	Digital	X8 (Pin1,2)	FanExt X:NO, FanSup X:NO***
DI4	External start/stop	Digital	X8 (Pin 3,4)	
Universal inputs				
UI1	Extract/room temperature	Passive (Ni 1000)	X11 (Pin 1,2)	X:12, X:13
UI2	Supply air temperature	Passive (Ni 1000)	X11 (Pin 3,4)	X:10, X:11
UI3	Outside temperature	Passive (Ni 1000)	X11 (Pin 5,6)	X14, X:15
UI4	External sensor extract (pressure or CO2)	Analog (0 - 10 V)	X11 (Pin 7,8)	X:26, G0
UI5	External sensor supply (pressure or CO2)	Analog (0 - 10 V)	X11 (Pin 9,10)	X:28, G0
UI6	With Plate heat exchanger: Frost/ice sensor With rotor: This is Elec heater O/H	Analog	X11(Pin11,12)	Thermoguard Thermostat F20
UI7	Spare		X11(Pin13,14)	
UI8	Filter guard supply air	Analog (0 - 10 V)	X12 (Pin 1,2)	Filterguard P1, G0
UI9	Filter guard extract air	Analog (0 - 10 V)	X12 (Pin 3,4)	Filterguard P2, G0
UI10	Input internal sensor extract	Analog (0 - 10 V)	X12 (Pin 5,6)	Sensor P11, G0
UI11	Input internal sensor supply	Analog (0 - 10 V)	X12 (Pin 7,8)	Sensor P12, G0
UI12	Forced operation (press button)	Digital	X12 (Pin 9,10)	X:22, X:23
UI13	Extended operation (press button)	Digital	X12(Pin11,12)	X:24, X:25
UI14	Fire thermostat from electrical battery Frost/ice sensor at water battery	Digital Passive (Ni 1000)	X12(Pin13,14)	Thermostat F10 Temperatur sensor B5

* Not in use with external converter (L50)

** With external converter (L50) : X:10(Pin1,3) Supply converter AI2, G0
X:10(Pin2,3) Extract converter AI2, G0

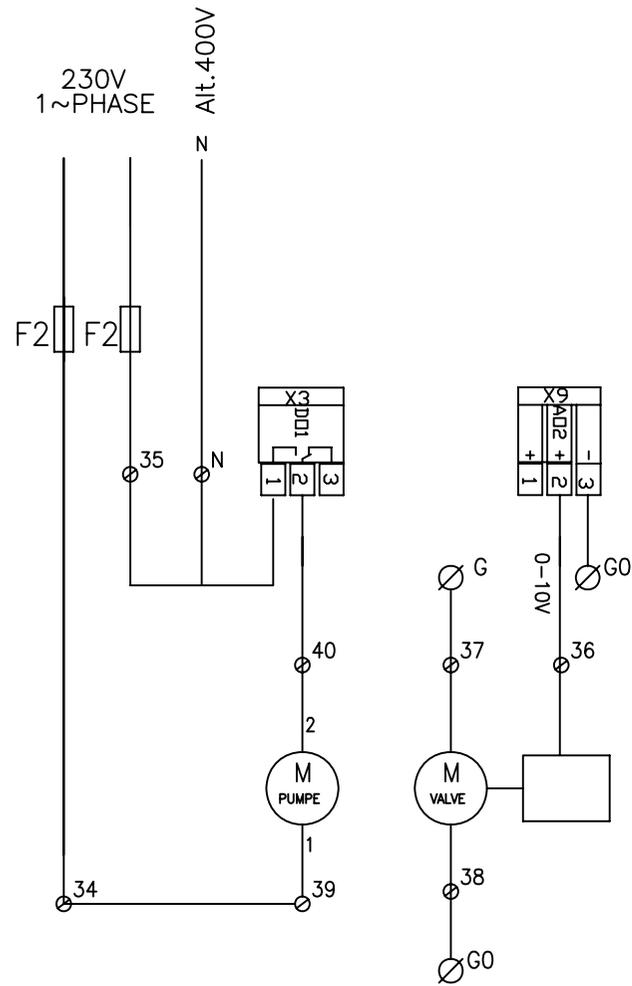
*** With external converter (L50): X8(Pin1,2) Extract con. R1C, Supply con.R1C

Ark.nr:	1/6 - English
Teg.nr:	342077
Art.nr:	93512
Dato:	10.03.04
Versjon:	1.1



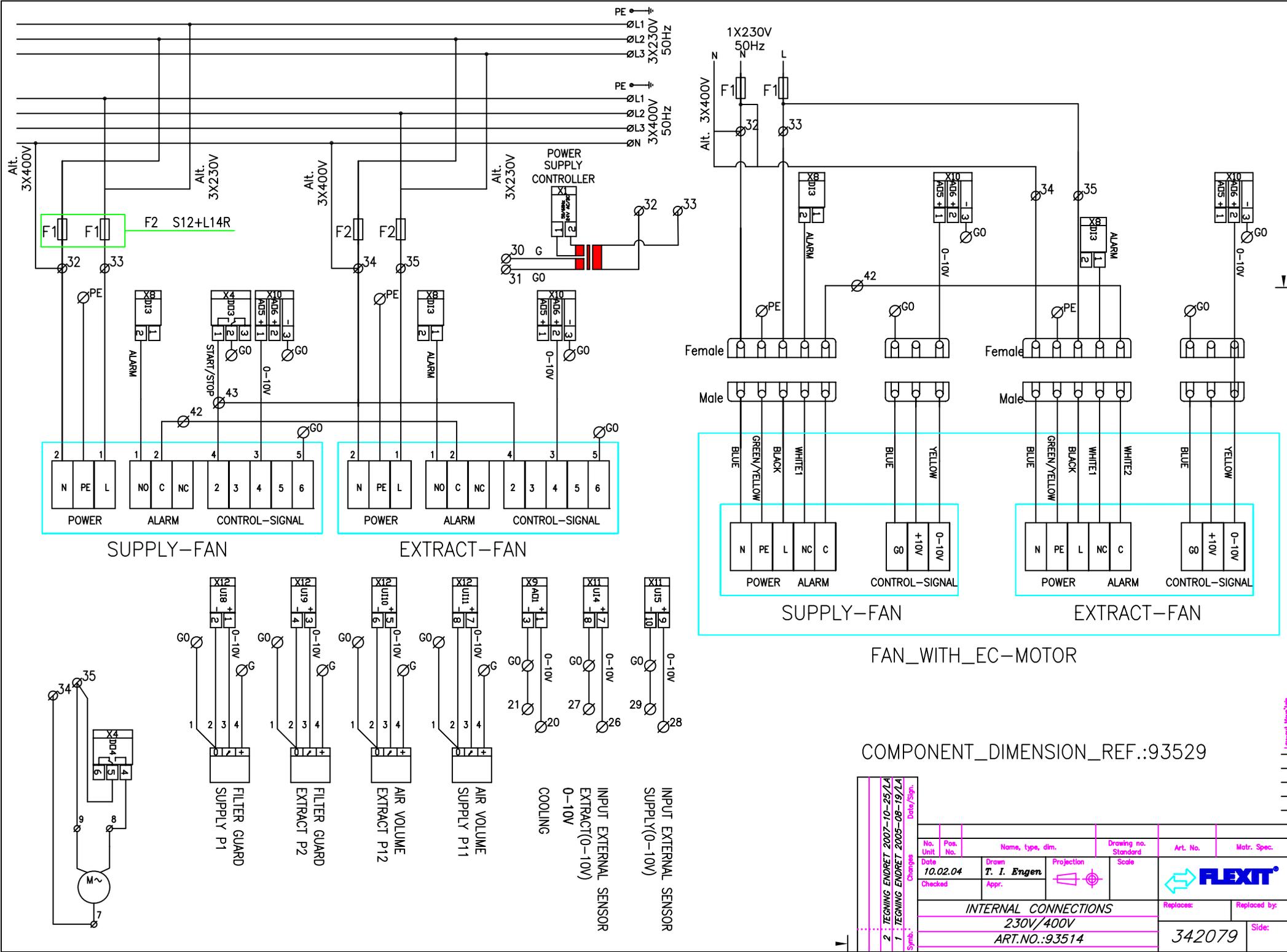
Farge kode interne ledninger
 Colour code - Internal wiring

L1 1~ (N)	230V	Blå (lys)	Blue (light)	BU	
L2 1~	230V	Svart	Black	BK	
24V AC (G)	Led 1 +	Rød	Red	RD	
Zero (0-point) G0	Led 2 -	Hvit	White	WH	
24V DC	Led 1 +	Blå (mørk)	Blue (dark)	BU	
Zero (0-point) G0	Led 2 -	Hvit	White	WH	
0-10V DC		Grå	Grey	GY	
Pot.free signal		Grå	Grey	GY	
G0 (0-point) from trafo 24V -					



2		Alt. 400V Legt. Inn 2008-02-05/LA									
1		TEGWING ENDRET 2005-08-23/LA									
Symbol		Date/Sign.									
No. Unit	Pos. No.	Name, type, dim.				Drawing no. Standard		Art. No.		Matr. Spec.	
Date	10.02.04	Drawn T. I. Engen		Projection 		Scale					
Checked		Appr.						Replaces:		Replaced by:	
CONNECTIONS WATER HEATER											
CS 1000 230V/400V											
ART.NO.:93513								342078		Side:	

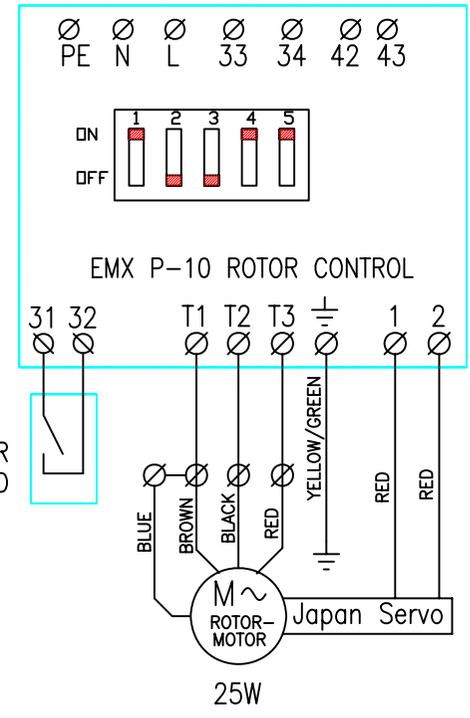
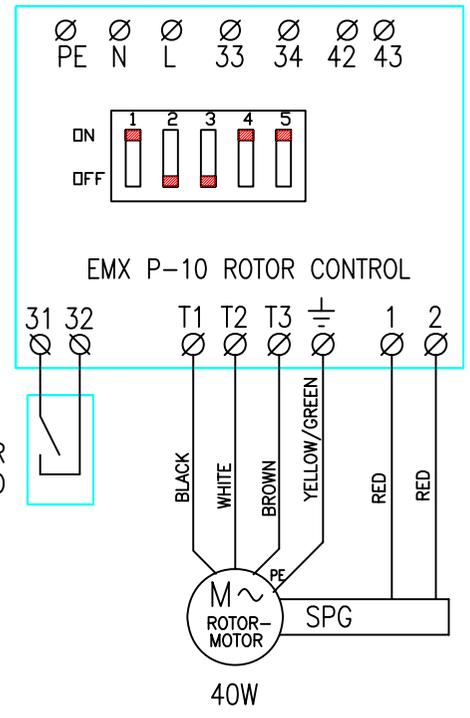
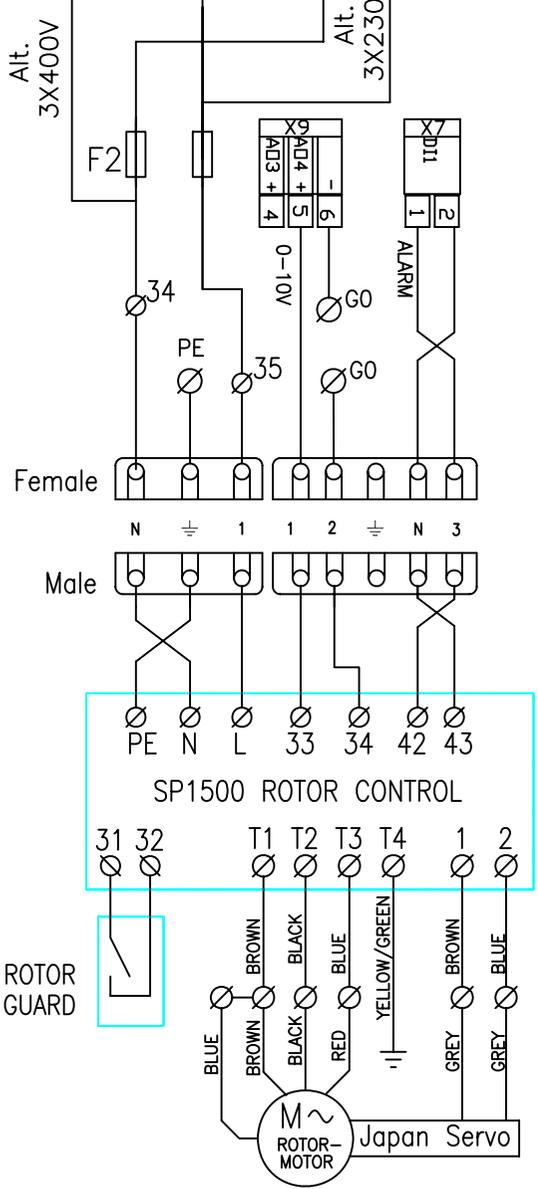
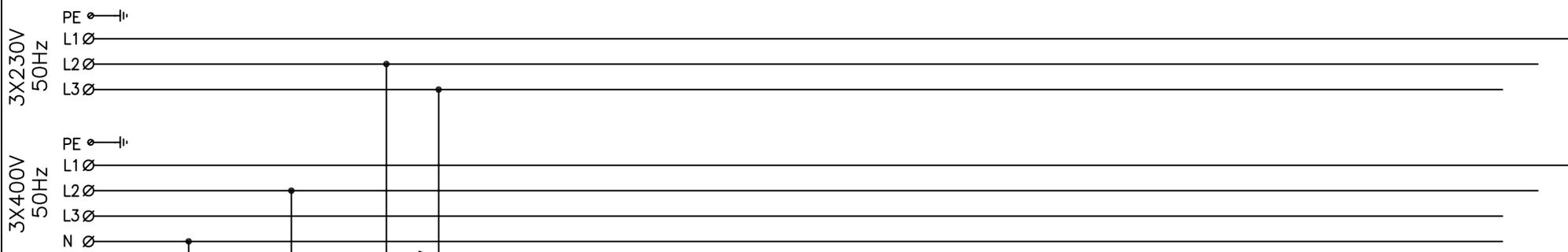
Exp-out: Max/Min



COMPONENT_DIMENSION_REF.:93529

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	No. Unit Pos. No. Name, type, dim. Drawing no. Standard Art. No. Matr. Spec. Date 10.02.04 Drawn T. I. Engen Projection Scale Checked Appr. INTERNAL CONNECTIONS 230V/400V ART.NO.:93514 Replaces: 342079 Replaced by: Side:
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Lap-out Max: 10mm



2		TEGWIN ENDRET 2006-04-18/LA		Date/Sign.	
1		TEGWIN ENDRET 2005-08-23/LA		Date/Sign.	
No. Unit		Name, type, dim.		Drawing no. Standard	
Date		Drawn		Projection	
Checked		Appr.		Scale	
CONNECTIONS ROTOR				Replaces:	
230V/400V				Replaced by:	
ART.NO.:93515				342080	
				Side:	

Exp-out: Max/Min

Elkomponentoversikt CS1000

93529/2008-01

Type	F1	F2	F3	F4	K1	K2	SSR	EB/stk	Tot kW
L20 XE 230 V	2*16	2*16	3*50		3*45		50	2500W	15kW
L20 XE 400 V	2*16	3*25			3*25		50	2500W	15kW
L20 XW 230 V	2*10	2*10							
L30 XE 230 V	2*16	2*16	3*32	3*32	3*32	3*32	50	3333W	20kW
L30 XE 400 V	2*16	3*32			3*25	3*25	50	3333W	20kW
L30 XW 230 V	2*10	2*10							
S20/30 E 230 V	2*16	2*16	3*50		3*45		50	2000/2500W	12/15kW
S20/30 E 400 V	2*16	3*25			3*45		50	2000/2500W	12/15kW
S20/30 W 230 V	2*16	2*16							
S20/30 W 400 V	2*16								
L14 RE 230V	2*10		3*10		3*25		25	1200W	3,6kW
L14 RE 400V	1*10		3*10		3*25		25	1200W	3,6kW
L14 RE 230V	2*10		3*10		3*25		25	600W	1,8kW
L14 RE 400V	1*10		3*10		3*25		25	600W	1,8kW
L14 RW 230V	2*10								
L20 RE 230V	2*10	2*10	3*16		3*25		25	2000W	6kW
L20 RE 400V	2*10	3*16			3*25		25	2000W	6kW
L20 RE 230V	2*10	2*10	3*16		3*25		25	1000W	3kW
L20 RE 400V	2*10	3*16			3*25		25	1000W	3kW
L20 RW 230V	2*10	2*10							
L20 RW 400V	2*10								
L40/30 RE 230V	2*16	2*16	3*32		3*45		75	2000W	12kW
L40/30 RE 400V	2*16	3*25			3*45		75	2000W	12kW
L40/30 RE 230V	2*16	2*16	3*25		3*45		75	2000W	6kW
L40/30 RE 400V	2*16	3*16			3*45		75	2000W	6kW
L40/30 RW 230V	2*16	2*16							
L40/30 RW 400V	2*16								
L50XE 230V	3*32	2*10	external	external	3*45	3*45	50	2833W	34kW
L50XE 400V	2*25	1*10	external	external	3*45	3*45	50	2833W	34kW
L50XW 230V	3*32	2*10							
L50XW 400V	2*25	1*10							
L60RE 230V	3*16	3*16	3*50		3*45		75	2500W	15kW
L60RE 400V	3*16	3*16	3*25		3*45		75	2500W	15kW
L60RE 230V	3*16	3*16	3*25		3*45		75	2500W	7,5kW
L60RE 400V	3*16	3*16	3*16		3*45		75	2500W	7,5kW
L60RW 230V	3*16	3*16							
L60RW 400V	3*16	3*16							

Elkomponentoversikt CS500

Type	F1	F2	F3	F4	K1	K2	SSR	EB/stk	Tot kW
S12XE 230V	2*10		external		3*20		25	2000W	6kW
S12XE 400V	1*10		external		3*20		25	2000W	6kW
S12XW 230V	2*10								
S12RE 230V	2*10		external		3*20		25	2000W	6kW
S12RE 400V	1*10		external		3*20		25	2000W	6kW
S12RW 230V	2*10								
L14 RE 230V	2*10		3*10		3*25		25	1200W	3,6kW
L14 RE 400V	1*10		3*10		3*25		25	1200W	3,6kW
L14 RE 230V	2*10		3*10		3*25		25	600W	1,8kW
L14 RE 400V	1*10		3*10		3*25		25	600W	1,8kW
L14 RW 230V	2*10								
L20 RE 230V	2*10	2*10	3*16		3*25		25	2000W	6kW
L20 RE 400V	2*10		3*16		3*25		25	2000W	6kW
L20 RE 230V	2*10	2*10	3*16		3*25		25	1000W	3kW
L20 RE 400V	2*10		3*16		3*25		25	1000W	3kW
L20 RW 230V	2*10	2*10							
L20 RW 400V	2*10								
L40/30 RE 230V	2*16	2*16	3*32		3*45		75	2000W	12kW
L40/30 RE 400V	2*16		3*25		3*45		75	2000W	12kW
L40/30 RE 230V	2*16	2*16	3*25		3*45		75	2000W	6kW
L40/30 RE 400V	2*16		3*16		3*45		75	2000W	6kW
L40/30 RW 230V	2*16	2*16							
L40/30 RW 400V	2*16								
L60RE 230V	3*16	3*16	3*50		3*45		75	2500W	15kW
L60RE 400V	3*16	3*16	3*25		3*45		75	2500W	15kW
L60RE 230V	3*16	3*16	3*25		3*45		75	2500W	7,5kW
L60RE 400V	3*16	3*16	3*16		3*45		75	2500W	7,5kW
L60RW 230V	3*16	3*16							
L60RW 400V	3*16	3*16							