







???? ??? (16?) ???? 6ES7 138-4DA04-0AB0 1????24V/100KHZ 6ES7  
138-4DB03-0AB0 SSI ?????? 6ES7 138-4DD00-0AB0 2 Pulse (pulse width  
modulation, timer) 6ES7 138-4DC00-0AB0 STEP1 ?????? 6ES7  
138-4DF01-0AB0 1 SI ???? (RS232 RS422 RS485 ???? ) 6ES7  
138-4DF11-0AB0 1? SI ??????????RS232/422?485 MODBUS/USS 6ES7  
138-4DL00-0AB0 1 -U ?? ?????? ?? 5V/24V ?????? 6ES7 138-4GA00-0AB0 4  
?IQ-SENSE ??24VC????5? ????? 6ES7 193-4CC20-0AA0 TM-P15S23-A1 f.  
PM//2x3 ?????????? 6ES7 193-4CC30-0AA0 TM-P15C23-A1 f. PM/2x3  
???????????? 6ES7 193-4CD20-0AA0 TM-P15S23-A0 f. PM/2x3 ??????????  
6ES7 193-4CD30-0AA0 TM-P15C23-A0 f. PM/2x3 ?????????? 6ES7  
193-4CE00-0AA0 TM-P15S22-01 f. PM/2x2 ???? ?????? 6ES7  
193-4CE10-0AA0 TM-P15C22-01 f. PM/2x2 ??????????? 6ES7  
193-4CA20-0AA0 TM-E15S24-A1 f. EM/2x4 ??????????? ?5?? 6ES7  
193-4CA30-0AA0 TM-E15C24-A1 f. EM/2x4 ??????????? ?5?? 6ES7  
193-4CB20-0AA0 TM-E15S24-01 f. EM/2x4 ??????????? ?5?? 6ES7  
193-4CB30-0AA0 TM-E15C24-01 f. EM/2x4 ??????????? ?5?? 6ES7  
193-4CB00-0AA0 TM-E15S23-01 f. EM/2x3 ??????????? ?5?? 6ES7  
193-4CB10-0AA0 TM-E15C23-01 f. EM/2x3 ??????????? ?5?? 6ES7  
193-4CA40-0AA0 TM-E15S26-A1 für EM/2x6 ??????????? ?5?? 6ES7  
193-4CA50-0AA0 TM-E15C26-A1 für EM/2x6 ??????????? ?5?? 6ES7  
193-4JA00-0AA0 SIMATIC DP?ET 200S???????? ?? 6ES7 193-4GA00-0AA0  
????TM-P?TM-E????? 3 x 10 MM,??5? 6ES7 193-4GB00-0AA0  
????????????????????????????5? ET200M: 6ES7 153-1AA03-0XA1 IM153-1??????90  
????????????????????6ES71531AA030XB0\*1+6ES79720BA120XA0\*1? 6ES7  
153-1AA03-0XA4 IM153-1?????35????????????????????6ES71531AA030XB0\*1  
+6ES79720BA410XA0\*1? 6ES7 153-1AA03-0XA5  
IM153-1????????????????????????????  
?6ES71531AA030XB0\*1+6ES79720BA520XA0\*1? 6ES7 153-1AA03-0XB4 I  
M153-1?????35????????????????????6ES71531AA030XB0\*1+6ES79720BB410X  
A0\*1? 6ES7 153-1AA03-0XB5 IM153-1????????????????????????  
?6ES71531AA030XB0\*1+6ES79720BB520XA0\*1? S7-300?????PLC?????????  
CPU????????????IO????????????????????????S7-300????????CPU????????????IO?????  
????????? ???PLC??S7-300??? 20?????CPU: 7?????CPU(CPU 312,CPU  
314,CPU 315-2 DP,CPU 315-2 PN/DP,CPU 317-2 DP,CPU 317-2  
PN/DP,CPU 319-3 PN/DP) 6 ???? CPU???????????? I/O??CPU 312C?CPU  
313C?CPU 313C-2 PtP?CPU 313C-2 DP?CPU 314C-2 PtP?CPU 314C-2  
DP? 5 ??????? CPU?CPU 315F-2 DP?CPU 315F-2 PN/DP?CPU 317F-2  
DP?CPU 317F-2 PN/DP?CPU 319F-3 PN/DP? 2?????CPU(CPU 315T-2 DP,

CPU 317T-2 DP) ???PLC S7-400????????? PLC S7-400????????? ???PLC  
S7-300????????? S7-300 ??????PLC ?????????????????? ???PLC  
S7-200????????? S7-200??PLC????????????????????????????????? ???PLC  
S7-1200????????? SIMATIC S7-1200 CPUSIMATIC S7-1200 ??? CPU  
?????????CPU 1211C?CPU 1212C ? CPU1214C S7-400  
PLC????????????????????? S7-400 PLC???  
???CPU??  
????????????????? 4? ??????  
??? “SIMATIC NET”?????  
??? 5?  
?????HMI??? HMI?????PLC???TD200?????????  
OP3?OP7?OP17?????/??????OP27?OP37?????????????TP7?TP27/37?TP170A/  
B??SIMATIC??PC670?????????PC??????HMI?????HMI?????????????ProTool  
?????????PLC?? SIMATIC S7????? ?????????? ?1?????????  
?????????????????PLC?PC?????????????????????????????????STEP 7?????SIMATIC  
S7??S7-300/400?C7 PLC?SIMATIC  
WinAC??PC?????????????????????????????STEP  
7-Micro/WIN??Windows????????S7-200??PLC????????????? SIMATIC S7?????  
????????? ??PC?????  
??PC?????WinAC?????????????????????????PLC?????????????????????Windows NT4.  
0?????SIMATIC?????????????????WinAC?????PLC?????????PLC?????????????????????  
?????????PLC?????????????????PC?????????PLC?????????WinAC?SIMATIC  
S7?????????????????????????SIMATIC?????????STEP  
7?????????????????WinAC?????????S7????????? SIMATIC S7????? ?????????? ??????  
?????????????????????????????????HMI??SCADA?????????????????????????????????????P  
roTool?????????????WinCC?  
ProTool?????????HMI?????????????????????PC?????????STEP 7??ProTool?????????Pr  
oTool/lite?????????????????OP3?OP7?OP17?TD17??ProTool/Pro?????????PC?????  
?HMI???ProTool/Pro?????????????????????Windows??????  
WinCC?????????????????????????SCADA?Supervisory Control and Data  
Acquisition?????????????PC?????WinCC?????????????????STEP 7?????????????PLC  
???  
??????WinCC5.0?????????????IE?????????????  
???SIMATIC??PLC?????1958?????C3,S3,S5,S7?????????????????????????????  
?????SIMATIC?PLC?6??????SIMATIC?PLC?6?  
1?????????????????1975?????????SIMATIC S3?????????????????????????????  
2?1979??S3??SIMATIC S5????????????????????????????? 3?20??80?????S5?????????—  
—U??PLC?????????S5-90U?95U?100U?115U?135U?155U? 4?1994?4??S7????



S7-400/S7-400H/S7-400F/FH S7-400 ? SIMATIC ??????????

PLC???????????????? (TIA) ?????S7-400

?? S7-400

???????????????? PLC ??? CPU ?????????????????????

???????????????????? SIMATIC HMI ???

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????? ????????????????????????????????????? SIMATIC S7-1200 ?????? PROFINET ????????????

??

?????????????. ????????????????? SIMATIC STEP 7 Basic????? SIMATIC WinCC

Basic ? SIMATIC S7-1200 ??????SIMATIC STEP 7 Basic ?????????????????????????????

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7 ????????????????????????????????? SIMATIC S7-1200 CPU SIMATIC S7-1200

???????????????????? CPU 1211C?CPU 1212C ? CPU

1214C?? CPU ?????????????????????

I/O?? CPU ????????????????????? I/O ???CPU 1212C

??? 2 ?????????CPU 1214C ??? 8 ????????????????? SIMATIC S7-1200 CPU

???????????????????? 3 ??? SIMATIC S7-1200 CPU ???????

??? SIMATIC S7-1200 ??? 35 mm DIN

??SIMATIC S7-1200

?? SIMATIC

S7-1200 ?????????????????????????

?????????????WinCCBasic?????????WinCCflexible????????? ?????????????????????????

??4/8/1650?S7-200????????????????????????????

?“????????????????”“????????”????????????SET??

????????????????PID??380V-480V±10

%????????????7.5kW-250kW????????????????????????EMC????????????????????????????????????

v/f????????????????????????

????????????????FCC?????v/f?????PID????????????????????????????

?????1??

?????2??

?????3??