

NEWELEC PRETORIA (PTY) LTD  
 MA RELAY REV 9 (Backward Compatible with 8C)  
 PROFIBUS DP INPUT, OUTPUT AND PARAMETER IDENTIFICATION

Max\_Input\_Len = 7 bytes  
 Max\_Output\_Len = 2 bytes  
 Max\_Diag\_Data\_Len = 47 bytes (Std 6 byte header as per DP Std)  
 User\_Prm\_Data\_Len = 16

<b>Cyclic Data Out (from PLC)</b>			
<b>Byte, bit</b>	<b>Parameter</b>	<b>Meaning</b>	<b>Cyclic Output</b>
Byte 0.0	RelayControl_C,0	Relay_1	Not Controlled
Byte 0.1	RelayControl_C,1	Relay_2	Relay_2
Byte 0.2	RelayControl_C,2	Relay-3	Relay-3
Byte 0.3	RelayControl_C,3	Relay_4	Not Controlled
Byte 0.4	RelayControl_C,4	MA configuration 00H to 06H	MA configure.0 (LSB)
Byte 0.5	RelayControl_C,5	Stand Alone Relay 07H-08H	MA configure.1
Byte 0.6	RelayControl_C,6	PLC control & Data	MA configure.2 (MSB)
Byte 0.7	RelayControl_C,7	Set to maintain Relay Output Status if PLC communications fail.	Operation Control Status
Byte 1.0	RelayControl_D,0		
Byte 1.1	RelayControl_D,1		
Byte 1.2	RelayControl_D,2		
Byte 1.3	RelayControl_D,3		
Byte 1.4	RelayControl_D,4		
Byte 1.5	RelayControl_D,5		
Byte 1.6	RelayControl_D,6	Set To Reset Relay Fault condition	Reset Relay
Byte 1.7	RelayControl_D,7	Set to enable MA relay settings down loaded from PLC	Parameterize Relay

<b>Cyclic Data In (to PLC)</b>			
<b>Byte, bit</b>	<b>Parameter</b>	<b>Meaning</b>	<b>Cyclic Input</b>
Byte 0.0	RelayControl_D,0	Set = Input 1 closed	Digital_Input_1
Byte 0.1	RelayControl_D,1	Set = Input 2 closed	Digital_Input_2
Byte 0.2	RelayControl_D,2	Set = Input 3 closed	Digital_Input_3
Byte 0.3	RelayControl_D,3	Set = Input 4 closed	Digital_Input_4
Byte 0.4	RelayControl_D,4	Set = Input 5 closed	Digital_Input_5
Byte 0.5	RelayControl_D,5		
Byte 0.6	RelayControl_D,6		
Byte 0.7	RelayControl_D,7	MA Relay Comms OK	
Byte 1.0	Alarm_Flag_A,0	Motor Running	InServiceFlag
Byte 1.1	Alarm_Flag_A,1	Overcurrent Alarm	OC_Flag
Byte 1.2	Alarm_Flag_A,2	Unbalance Alarm	UnbalFlag
Byte 1.3	Alarm_Flag_A,3	Min Load Alarm	UC_Flag
Byte 1.4	Alarm_Flag_A,4	Earth Leakage	EL_Flag
Byte 1.5	Alarm_Flag_A,5	Under Voltage	Volt_Flag
Byte 1.6	Alarm_Flag_A,6	Over temperature	RTD_Flag
Byte 1.7	Alarm_Flag_A,7	Frozen Contactor	FrozenCnt_Flag
Byte 2.0 – 2.7	ActualLoadCurrent	Actual Load Current	
Byte 3.0	TripFlag_A,0	Overcurrent Trip	OC_TripFlag
Byte 3.1	TripFlag_A,1	Unbalance Trip	UnbalTripFlag
Byte 3.2	TripFlag_A,2	Single Phase Trip	SP_TripFlag
Byte 3.3	TripFlag_A,3	Min Load Trip	UC_TripFlag
Byte 3.4	TripFlag_A,4	Earth Leakage Trip	EL_TripFalg
Byte 3.5	TripFlag_A,5	Phase Rotation Trip	VoltTrip_Flag
Byte 3.6	TripFlag_A,6	Overtemperature Trip	RTD_TripFlag
Byte 3.7	TripFlag_A,7	Frozen Contactor Trip	FrozenCnt_TripF
Byte 4.0 – 4.7	ThermalCap	Thermal Capacity	
Byte 5.0 – 5.7	RunHourHi	Running Hours	
Byte 6.0 – 6.7	RunHourLo		

<b>Diagnostic Data</b>			
<b>Parameter</b>	<b>Meaning</b>	<b>Access</b>	<b>Bit range</b>
UserDiagLen	Length diagnostic telegram	DP	
ThermalCap	Thermal Capacity	R/W	(0-7)
RunHourCntr	Totaled Running Hours	R/Clear	(8-15) (16-23)
TripFaultCnt	Trip Fault Counter	R/Clear	(24-31) (32-39)
StartUpCntr	Totaled Number of Starts	R/Clear	(40-47) (48-55)
LastFault1	Most recent fault	R/Clear	(56-63) (64-71)
LF1 Year	Time Stamp year	R/Clear	(72-79)
LF1 Month	Time Stamp Month	R/Clear	(80-87)
LF1 Day	Time Stamp Day	R/Clear	(88-95)
LF1 Hour	Time Stamp Hour	R/Clear	(96-103)
LF1 Min	Time Stamp Minute	R/Clear	(104-111)
LastFault2	Previous Fault	R/Clear	(112-119) (120-127)
LF2 Year	Time Stamp year	R/Clear	(128-135)
LF2 Month	Time Stamp Month	R/Clear	(136-143)
LF2 Day	Time Stamp Day	R/Clear	(144-151)
LF2 Hour	Time Stamp Hour	R/Clear	(152-159)
LF2 Min	Time Stamp Minute	R/Clear	(160-167)
LastFault3	Post Previous Fault	R/Clear	(168-175) (176-183)
LF3 Year	Time Stamp year	R/Clear	(184-191)
LF3 Month	Time Stamp Month	R/Clear	(192-199)
LF3 Day	Time Stamp Day	R/Clear	(200-207)
LF3 Hour	Time Stamp Hour	R/Clear	(208-215)
LF3 Min	Time Stamp Minute	R/Clear	(216-223)
LastFault4	Post, Post Previous Fault	R/Clear	(224-231) (232-239)
LF4 Year	Time Stamp year	R/Clear	(240-247)
LF4 Month	Time Stamp Month	R/Clear	(248-255)
LF4 Day	Time Stamp Day	R/Clear	(256-263)
LF4 Hour	Time Stamp Hour	R/Clear	(264-271)
LF4 Min	Time Stamp Minute	R/Clear	(272-279)
StrtUpYear	Year	R/Clear	(280-287)
StrtUpMnth	Month	R/Clear	(288-295)
StrtUpDay	Day	R/Clear	(296-303)
StrtUpHour	Hour	R/Clear	(304-311)
StrtUpMin	Min	R/Clear	(312-319)

NEWELEC PRETORIA (PTY) LTD  
MA RELAY REV 9

TEXT COPY OF MA-REV9 GSD FILE

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; These 3 lines are necessary only for template management and can be
; removed after using. The GSD file starts with the line below.
;=====
; GSD File  NEWELEC Pretoria (Pty)Ltd. For MA-Relay rev 9
; Modular Slave with header parameters
;
; Version:  V0.1
;=====
#Profibus_DP
PrmText=1
Text(0)="Enable"
Text(1)="Disable"
EndPrmText
PrmText=2
Text(0)="0 Volt"
Text(1)="110 V"
Text(2)="380 V"
Text(3)="525 V"
EndPrmText
PrmText=3
Text(0)="Manual"
Text(1)="10 sec."
Text(2)="5 min."
Text(3)="10 min."
Text(4)="20 min."
Text(5)="30 min."
Text(6)="45 min."
Text(7)="1 hr."
Text(8)="3 hr."
Text(9)="6 hr."
EndPrmText

; <Ext-User-Prm-Data-Def-List>
ExtUserPrmData=1 "Maximum Load Setting"
Unsigned8 30 10-100
EndExtUserPrmData
ExtUserPrmData=2 "Minumum Load Setting x4"
Unsigned8 5 5-25
EndExtUserPrmData
ExtUserPrmData=3 "Thermal Curve Class"
Unsigned8 15 5-35
EndExtUserPrmData
ExtUserPrmData=4 "EL_TripLevel x 10"
Unsigned8 25 25-100
EndExtUserPrmData
ExtUserPrmData=5 "EL_TripDelay x 0.5"
Unsigned8 20 2-20
EndExtUserPrmData
ExtUserPrmData=6 "CntrlByteA - AutoManSwitch"
Bit(0) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=7 "CntrlByteA - MinLoadDisable"
Bit(1) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=8 "CntrlByteA - MinLoadAutoRst"
Bit(2) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
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ExtUserPrmData=9 "CntrlByteA - UV_TripDisable"
Bit(3) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=10 "CntrlByteA - FailSafeDis"
Bit(4) 1 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=11 "CntrlByteA - UnBalDisable"
Bit(5) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=12 "CntrlByteA - PhaseRotDisable"
Bit(6) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=13 "CntrlByteA - RunStallDisable"
Bit(7) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=14 "CntrlByteB - EL_TripDisable"
Bit(0) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=15 "CntrlByteB - RTD_1_Disable"
Bit(1) 1 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=16 "CntrlByteB - RTD_2_Disable"
Bit(2) 1 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=17 "CntrlByteB - RTD_3_Disable"
Bit(3) 1 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=18 "CntrlByteB - OV_TripDisable"
Bit(4) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=19 "CntrlByteB - SinglePhaseDis"
Bit(5) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=20 "CntrlByteB - EL_FilterDis"
Bit(6) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=21 "CntrlByteB - Ip_FilterDis"
Bit(7) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData
ExtUserPrmData=22 "Line Voltage Setting"
Unsigned8 0 0-3
Prm_Text_Ref=2
EndExtUserPrmData
ExtUserPrmData=23 "RTD_TripDelay x0.05"
Unsigned8 200 20-200
EndExtUserPrmData
ExtUserPrmData=24 "UnbalTripLevel"
Unsigned8 20 5-50
EndExtUserPrmData
ExtUserPrmData=25 "UnbalTripDelay x0.05"
Unsigned8 200 20-200
EndExtUserPrmData
ExtUserPrmData=26 "RTD_TripLevel x 0.2"

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Unsigned8 130 5-255
EndExtUserPrmData
ExtUserPrmData=27 "Min Load Trip Delay x0.05"
Unsigned8 200 20-200
EndExtUserPrmData
ExtUserPrmData=28 "Min Load Reset Delay Sel"
Unsigned8 1 0-9
Prm_Text_Ref=3
EndExtUserPrmData
ExtUserPrmData=29 "Init_ThermalCap"
Unsigned8 30 0-100
EndExtUserPrmData
;General parameters
GSD_Revision      = 1
Vendor_Name       = "NewElec Pretoria (Pty)Ltd."
Model_Name        = "MA-PROFImodule"
Revision          = "9.0"
Ident_Number      = 0xf877
Protocol_Ident    = 0
Station_Type      = 0
FMS_supp         = 0
Hardware_Release  = "9.0"
Software_Release  = "9.0"
9.6_supp         = 1
19.2_supp        = 1
45.45_supp       = 0
93.75_supp       = 1
187.5_supp       = 1
500_supp         = 1
1.5M_supp        = 1
3M_supp          = 1
6M_supp          = 1
12M_supp         = 1
MaxTsdr_9.6      = 60
MaxTsdr_19.2     = 60
MaxTsdr_45.45    = 60
MaxTsdr_93.75   = 60
MaxTsdr_187.5    = 60
MaxTsdr_500      = 100
MaxTsdr_1.5M     = 150
MaxTsdr_3M       = 250
MaxTsdr_6M       = 450
MaxTsdr_12M      = 800
Redundancy       = 0
Repeater_Ctrl_Sig = 2
24V_Pins         = 0
Implementation_Type = "VPC3"
Bitmap_Device    = "DPLINK_N"
Bitmap_Diag      = "DPLINK_D"
Bitmap_SF        = "DPLINK_S"

; Slave-Specification:
Freeze_Mode_supp = 1
Sync_Mode_supp   = 1
Set_Slave_Add_Supp = 1
Auto_Baud_supp   = 1
Min_Slave_Intervall = 10
Fail_Safe        = 1
Max_Diag_Data_Len = 47
Modul_Offset     = 1
Slave_Family     = 2@NewElec@MA-PROFImodule
Modular_Station  = 1
Max_Module       = 1
Max_Input_len    = 7
Max_Output_len   = 2
Max_Data_len     = 9

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; UserPrmData: Length and Preset:
User_Prm_Data_Len=16
User_Prm_Data=0x00,0x0A,0x05,0x0F,0x14,0xC8,0x00,0x0E,0x02,0xC8,0x1E,0xC8,0x64,0
xC8,0x01,0x1E
Max_User_Prm_Data_Len= 16
Ext_User_Prm_Data_Const(0)=0x00,0x0A,0x05,0x0F,0x14,0xC8,0x00,0x0E,0x02,0xC8,0x1
E,0xC8,0x64,0xC8,0x01,0x1E
Ext_User_Prm_Data_Ref(1)=1
Ext_User_Prm_Data_Ref(2)=2
Ext_User_Prm_Data_Ref(3)=3
Ext_User_Prm_Data_Ref(4)=4
Ext_User_Prm_Data_Ref(5)=5
Ext_User_Prm_Data_Ref(6)=6
Ext_User_Prm_Data_Ref(6)=7
Ext_User_Prm_Data_Ref(6)=8
Ext_User_Prm_Data_Ref(6)=9
Ext_User_Prm_Data_Ref(6)=10
Ext_User_Prm_Data_Ref(6)=11
Ext_User_Prm_Data_Ref(6)=12
Ext_User_Prm_Data_Ref(6)=13
Ext_User_Prm_Data_Ref(7)=14
Ext_User_Prm_Data_Ref(7)=15
Ext_User_Prm_Data_Ref(7)=16
Ext_User_Prm_Data_Ref(7)=17
Ext_User_Prm_Data_Ref(7)=18
Ext_User_Prm_Data_Ref(7)=19
Ext_User_Prm_Data_Ref(7)=20
Ext_User_Prm_Data_Ref(7)=21
Ext_User_Prm_Data_Ref(8)=22
Ext_User_Prm_Data_Ref(9)=23
Ext_User_Prm_Data_Ref(10)=24
Ext_User_Prm_Data_Ref(11)=25
Ext_User_Prm_Data_Ref(12)=26
Ext_User_Prm_Data_Ref(13)=27
Ext_User_Prm_Data_Ref(14)=28
Ext_User_Prm_Data_Ref(15)=29

; Diag defs
; Last Fault 1
Unit_Diag_Bit(56) = "LF1:OV_TripFlag"
Unit_Diag_Bit(57) = "LF1:RTD1_TripFlag"
Unit_Diag_Bit(58) = "LF1:RTD2_TripFlag"
Unit_Diag_Bit(59) = "LF1:RTD3_TripFlag"
Unit_Diag_Bit(60) = "LF1:Frozen Contact Trip Flag"

Unit_Diag_Bit(64) = "LF1:OC_TripFlag"
Unit_Diag_Bit(65) = "LF1:RubStallTripF"
Unit_Diag_Bit(66) = "LF1:UnbalTripFlag"
Unit_Diag_Bit(67) = "LF1:SP_TripFlag"
Unit_Diag_Bit(68) = "LF1:UC_TripFlag"
Unit_Diag_Bit(69) = "LF1:EL_TripFlag"
Unit_Diag_Bit(70) = "LF1:PR_TripFlag"
Unit_Diag_Bit(71) = "LF1:UV_TripFlag"

; Last Fault 2
Unit_Diag_Bit(112) = "LF2:OV_TripFlag"
Unit_Diag_Bit(113) = "LF2:RTD1_TripFlag"
Unit_Diag_Bit(114) = "LF2:RTD2_TripFlag"
Unit_Diag_Bit(115) = "LF2:RTD3_TripFlag"
Unit_Diag_Bit(116) = "LF2:Frozen Contact Trip Flag"

Unit_Diag_Bit(120) = "LF2:OC_TripFlag"
Unit_Diag_Bit(121) = "LF2:RubStallTripF"
Unit_Diag_Bit(122) = "LF2:UnbalTripFlag"

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Unit_Diag_Bit(123) = "LF2:SP_TripFlag"
Unit_Diag_Bit(124) = "LF2:UC_TripFlag"
Unit_Diag_Bit(125) = "LF2:EL_TripFlag"
Unit_Diag_Bit(126) = "LF2:PR_TripFlag"
Unit_Diag_Bit(127) = "LF2:UV_TripFlag"

; Last Fault 3
Unit_Diag_Bit(168) = "LF3:OV_TripFlag"
Unit_Diag_Bit(169) = "LF3:RTD1_TripFlag"
Unit_Diag_Bit(170) = "LF3:RTD2_TripFlag"
Unit_Diag_Bit(171) = "LF3:RTD3_TripFlag"
Unit_Diag_Bit(172) = "LF3:Frozen Contact Trip Flag"

Unit_Diag_Bit(176) = "LF3:OC_TripFlag"
Unit_Diag_Bit(177) = "LF3:RubStallTripF"
Unit_Diag_Bit(178) = "LF3:UnbalTripFlag"
Unit_Diag_Bit(179) = "LF3:SP_TripFlag"
Unit_Diag_Bit(180) = "LF3:UC_TripFlag"
Unit_Diag_Bit(181) = "LF3:EL_TripFlag"
Unit_Diag_Bit(182) = "LF3:PR_TripFlag"
Unit_Diag_Bit(183) = "LF3:UV_TripFlag"

; Last Fault 4
Unit_Diag_Bit(224) = "LF4:OV_TripFlag"
Unit_Diag_Bit(225) = "LF4:RTD1_TripFlag"
Unit_Diag_Bit(226) = "LF4:RTD2_TripFlag"
Unit_Diag_Bit(227) = "LF4:RTD3_TripFlag"
Unit_Diag_Bit(228) = "LF4:Frozen Contact Trip Flag"

Unit_Diag_Bit(232) = "LF4:OC_TripFlag"
Unit_Diag_Bit(233) = "LF4:RubStallTripF"
Unit_Diag_Bit(234) = "LF4:UnbalTripFlag"
Unit_Diag_Bit(235) = "LF4:SP_TripFlag"
Unit_Diag_Bit(236) = "LF4:UC_TripFlag"
Unit_Diag_Bit(237) = "LF4:EL_TripFlag"
Unit_Diag_Bit(238) = "LF4:PR_TripFlag"
Unit_Diag_Bit(239) = "LF4:UV_TripFlag"

; Module Definition List
Module="MA_PROFIrev8" 0x21,0x16
EndModule

Module="MA-PROFIrev9" 0x21,0x16
EndModule

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