



Numerical Protection Relay

MELPRO™-D Series

IEC 61850
Signal Assigned Map (Instance Table)

TYPE: CFP1-A41D1

MELPRO-D Series CFP1-A41D1

LD (Logical device)	LN (Logical node)	FC (Function constraint)	Data object name	CDC (Common data class)	Data attribute name	Signal Name	Comments		
Relay	LLN0	ST	Loc	SPS	stVal	CB_LR			
		CO	LEDRs	SPC	ctlVal	LED_RESET	LED reset by C key on front panel or demand from IEC61850		
	LPHD	ST	Phyhealth	INS	stVal	RUN ALARM-L	Abnormal condition of constant supervision (non alarm light alarm)		
	PTRC1 Trip	ST	OpCntRs	INC	stVal	Ope.Count	trip counter		
			Tr	ACT	general	ALLEL-O	trip signal		
	PTOC1 OC1	ST	Str	ACD (Unknown)	general	OC1-3D O	OC1 detection signal.		
			Op	ACT	general	OC1-3 O	OC1 operate signal.		
					phsA	OC1-A	OC1 phaseA operate signal.		
					phsB	OC1-B	OC1 phaseB operate signal.		
	PTOC2 OCG1	ST	Str	ACD (Unknown)	general	OC1-GD	OCG1 detection signal.		
					neut	OC1-G	OCG1 operate signal.		
					PTOC3 OC2	ST	Str	ACD (Unknown)	general
	Op	ACT	general	OC2-3 O					OC2 operate signal.
			phsA	OC2-A					OC2 phaseA operate signal.
			phsB	OC2-B	OC2 phaseB operate signal.				
	PTOC4 OCG2	ST	Str	ACD (Unknown)	general	OC2-GD	OCG2 detection signal.		
					neut	OC2-G	OCG2 operate signal.		
					PTOC5 OC3	ST	Str	ACD (Unknown)	general
	Op	ACT	general	OC3-3 O					OC3 operate signal.
			phsA	OC3-A					OC3 phaseA operate signal.
			phsB	OC3-B	OC3 phaseB operate signal.				
	PTOC6 OCG3	ST	Str	ACD (Unknown)	general	OC3-GD	OCG3 detection signal.		
					neut	OC3-G	OCG3 operate signal.		
					PTOC7 OC4	ST	Str	ACD (Unknown)	general
	Op	ACT	general	OC4-3 O					OC4 operate signal.
			phsA	OC4-A					OC4 phaseA operate signal.
			phsB	OC4-B	OC4 phaseB operate signal.				
	PTOC8 OCG4	ST	Str	ACD (Unknown)	general	OC4-GD	OCG4 detection signal.		
					neut	OC4-G	OCG4 operate signal.		
					PTOC9 NOC1	ST	Str	ACD (Unknown)	general
	Op	ACT	general	NOC1			OCNEG1 operate signal.		
	PTOC10 NOC2	ST	Str	ACD (Unknown)	general	NOC2-D	OCNEG2 detection signal.		
			Op	ACT	general	NOC2	OCNEG2 operate signal.		
	PTOC11 DIRG1	ST	Str	ACD (Forward)	general	DIRG1-D	DIRG1 detection signal.		
			Op	ACT	general	DIRG1	DIRG1 operate signal.		
	PTOC12 DIRG2	ST	Str	ACD (Forward)	general	DIRG2-D	DIRG2 detection signal.		
			Op	ACT	general	DIRG2	DIRG2 operate signal.		
	PTOC13 DIRG3	ST	Str	ACD (Forward)	general	DIRG3-D	DIRG3 detection signal.		
			Op	ACT	general	DIRG3	DIRG3 operate signal.		
	PTOC14 DIRG4	ST	Str	ACD (Forward)	general	DIRG4-D	DIRG4 detection signal.		
			Op	ACT	general	DIRG4	DIRG4 operate signal.		
	PTUC1 UC1	ST	Str	ACD (Unknown)	general	UC1-3D O	UC1 detection signal.		
			Op	ACT	general	UC1-3 O	UC1 operate signal.		
					phsA	UC1-A	UC1 phaseA operate signal.		
					phsB	UC1-B	UC1 phaseB operate signal.		
	PTUC2 UC2	ST	Str	ACD (Unknown)	general	UC2-3D O	UC2 detection signal.		
					Op	ACT	general	UC2-3 O	UC2 operate signal.
							phsA	UC2-A	UC2 phaseA operate signal.
							phsB	UC2-B	UC2 phaseB operate signal.
	RBRF1 CBF	ST	Str	ACD (Unknown)	general	CBF-3D O	CBF detection signal.		
OpEx					ACT	general	CBF-3 O	CBF trip signal.	
						phsA	CBF-A	CBF phaseA operate signal.	
					phsB	CBF-B	CBF phaseB operate signal.		

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LD (Logical device)	LN (Logical node)	FC (Function constraint)	Data object name	CDC (Common data class)	Data attribute name	Signal Name	Comments
					phsC	CBF-C	CBF phaseC operate signal.
	RBRF2	ST	Str	ACD (Unknown)	general	CBF-GD	CBFG detection signal.
	CBFG		OpEx	ACT	general	CBF-G	CBFG operate signal.
	PTUV1	ST	Str	ACD (Unknown)	general	UV1-3D O	UV1 phase to earth detection signal.
	UV1		Op	ACT	general	UV1-3 O	UV1 phase to earth operate signal.
					phsA	UV1-A	UV1 phaseA or AB operate signal.
					phsB	UV1-B	UV1 phaseB or BC operate signal.
					phsC	UV1-C	UV1 phaseC or CA operate signal.
	PTUV2	ST	Str	ACD (Unknown)	general	UV2-3D O	UV2 phase to phase detection signal.
	UV2		Op	ACT	general	UV2-3 O	UV2 phase to phase operate signal.
					phsA	UV2-A	UV2 phaseA or AB operate signal.
					phsB	UV2-B	UV2 phaseB or BC operate signal.
					phsC	UV2-C	UV2 phaseC or CA operate signal.
	PTOV1	ST	Str	ACD (Unknown)	general	OV1-3D O	OV1 detection signal.
	OV1		Op	ACT	general	OV1-3 O	OV1 operate signal.
					phsA	OV1-A	OV1 phaseA or AB operate signal.
					phsB	OV1-B	OV1 phaseB or BC operate signal.
					phsC	OV1-C	OV1 phaseC or CA operate signal.
	PTOV2	ST	Str	ACD (Unknown)	general	OV2-3D O	OV2 detection signal.
	OV2		Op	ACT	general	OV2-3 O	OV2 operate signal.
					phsA	OV2-A	OV2 phaseA or AB operate signal.
					phsB	OV2-B	OV2 phaseB or BC operate signal.
					phsC	OV2-C	OV2 phaseC or CA operate signal.
	PTOV3	ST	Str	ACD (Unknown)	general	OVG1-D	OVN1 detection signal.
	OVG1		Op	ACT	general	OVG1	OVN1 operate signal.
	PTOV4	ST	Str	ACD (Unknown)	general	OVG2-D	OVN2 detection signal.
	OVG2		Op	ACT	general	OVG2	OVN2 operate signal.
	PTOV5	ST	Str	ACD (Unknown)	general	NOV1-D	OVNEG1 detection signal.
	NOV1		Op	ACT	general	NOV1	OVNEG1 operate signal.
	PTOV6	ST	Str	ACD (Unknown)	general	NOV2-D	OVNEG2 detection signal.
	NOV2		Op	ACT	general	NOV2	OVNEG2 operate signal.
	PTUF1	ST	Str	ACD (Unknown)	general	UF1-D	UF1 detection signal.
	UF1		Op	ACT	general	UF1	UF1 operation signal. This signal is used for DO output logic.
	PTUF2	ST	Str	ACD (Unknown)	general	UF2-D	UF2 detection signal.
	UF2		Op	ACT	general	UF2	UF2 operation signal. This signal is used for DO output logic.
	PTUF3	ST	Str	ACD (Unknown)	general	UF3-D	UF3 detection signal.
	UF3		Op	ACT	general	UF3	UF3 operation signal. This signal is used for DO output logic.
	PTOF1	ST	Str	ACD (Unknown)	general	OF1-D	OF1 detection signal.
	OF1		Op	ACT	general	OF1	OF1 operation signal. This signal is used for DO output logic.
	PTOF2	ST	Str	ACD (Unknown)	general	OF2-D	OF2 detection signal.
	OF2		Op	ACT	general	OF2	OF2 operation signal. This signal is used for DO output logic.
	PTOF3	ST	Str	ACD (Unknown)	general	OF3-D	OF3 detection signal.
	OF3		Op	ACT	general	OF3	OF3 operation signal. This signal is used for DO output logic.
	PHAR	ST	Str	ACD (Unknown)	general	2f-3D O	OC2F detection signal.
	CILO1	ST	EnaOpn	SPS	stVal	INT_LK_OP	Enable Open
	Interlock		EnaCls	SPS	stVal	INT_LK_CL	Enable Close
			ElemEna	SPS	stVal	43INT_FLG	Status INTERLOCK
		CO	ElemEna	SPC	Oper.ctlVal	INT_LK_EN	INTERLOCK OFF(no use) / ON(use)
	CSW11	ST	Pos	DPS	stVal	CBa1	Status of switch position (intermediate-state off on bad-state)
	CB control	CO	Pos	DPC	Oper.ctlVal	CTL_ON	Use API of HMIR
	XCBR1	ST	Loc	SPS	stVal	False(FIX)	Local operation (local means without substation automation communication, hardwired direct control)
	Circuit breaker		OpCnt	INS	stVal	0(FIX)	Value 0 Fix, Operation counter (Count by DI input isn't done in D40)
			Pos	DPC	stVal	CBa1	Status of switch position (intermediate-state off on bad-state)
			BlkOpn	SPS	stVal	CTL_BLOP1	Status value of the Block opening
		CO	BlkOpn	SPC	Oper.ctlVal	CTL_BLCL1	Control value of the Block opening OFF(no use) / ON(use)
		ST	BlkCls	SPS	stVal	CTL_BLCL1	Status value of the Block closing
		CO	BlkCls	SPC	Oper.ctlVal	CLOSE_BLK1	Control value of the Block closing OFF(no use) / ON(use)
		ST	CBOpCap	INS	stVal	1(FIX)	Value 1 Fix, Circuit breaker operating capability
	RDRE1	ST	RcdMade	SPS	stVal	DS_TRIG	Recording made M

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LD (Logical device)	LN (Logical node)	FC (Function constraint)	Data object name	CDC (Common data class)	Data attribute name	Signal Name	Comments
			FltNum	INS	stVal	FltNum	Fault Number
	MMXU1	MX	PhV.phsA	WYE.CMV	cval.mag.f	Va	Phase to ground voltages Phase A
cval.ang.f					Va_phase	Phase between reference phase(setting) and voltage phase A	
q					Va,Va_Phase	Quality is judged by application	
PhV.phsB			WYE.CMV	cval.mag.f	Vb	Phase to ground voltages Phase B	
				cval.ang.f	Vb_phase	Phase between reference phase(setting) and voltage phase B	
				q	Vb,Vb_Phase	Quality is judged by application	
PhV.phsC			WYE.CMV	cval.mag.f	Vc	Phase to ground voltages Phase C	
				cval.ang.f	Vc_phase	Phase between reference phase(setting) and voltage phase C	
				q	Vc,Vc_Phase	Quality is judged by application	
V0			CMV	cval.mag.f	VG	Zero phase voltage	
				cval.ang.f	VG_Phase	Phase between reference phase(setting) and current phase VG	
				q	VG,VG_Phase	Quality is judged by application	
PPV.phsA			DEL.CMV	cval.mag.f	Vab	Phase to phase voltages Phase AB	
				cval.ang.f	Vab_phase	Phase between reference phase(setting) and voltage phase AB	
				q	Vab,Vab_Phase	Quality is judged by application	
PPV.phsB			DEL.CMV	cval.mag.f	Vbc	Phase to phase voltages Phase BC	
				cval.ang.f	Vbc_phase	Phase between reference phase(setting) and voltage phase BC	
				q	Vbc,Vbc_Phase	Quality is judged by application	
PPV.phsC			DEL.CMV	cval.mag.f	Vca	Phase to phase voltages Phase CA	
				cval.ang.f	Vca_phase	Phase between reference phase(setting) and voltage phase CA	
				q	Vca,Vca_Phase	Quality is judged by application	
A.phsA			WYE.CMV	cval.mag.f	Ia	Phase currents Phase A	
				cval.ang.f	Ia_Phase	Phase between reference phase(setting) and current phase A	
				q	Ia,Ia_Phase	Quality is judged by application	
A.phsB			WYE.CMV	cval.mag.f	Ib	Phase currents Phase B	
				cval.ang.f	Ib_Phase	Phase between reference phase(setting) and current phase B	
				q	Ib,Ib_Phase	Quality is judged by application	
A.phsC			WYE.CMV	cval.mag.f	Ic	Phase currents Phase C	
				cval.ang.f	Ic_Phase	Phase between reference phase(setting) and current phase C	
				q	Ic,Ic_Phase	Quality is judged by application	
I0			CMV	cval.mag.f	IG	Zero phase current	
				cval.ang.f	IG_Phase	Phase between reference phase(setting) and current phase IG	
				q	IG,IG_Phase	Quality is judged by application	
TotW			MV	mag.f	P	Total Active Power	
				q	P	Quality is judged by application	
TotVAr			MV	mag.f	Q	Total Reactive Power	
	q	Q		Quality is judged by application			
TotVA	MV	mag.f	S	Total Apparent Power			
		q	S	Quality is judged by application			
TotPF	MV	mag.f	PF	Average Power factor			
		q	PF	Quality is judged by application			
Hz	MV	mag.f	F	Frequency			
		q	F	Quality is judged by application			
MSQI	MX	SeqA.c1	SEQ.CMV	cval.mag.f	I1	Positive Sequence Current	
				q	I1	Quality is judged by application	
		SeqA.c2	SEQ.CMV	cval.mag.f	I2	Negative Sequence Current	
				q	I2	Quality is judged by application	
		SeqA.c3	SEQ.CMV	cval.mag.f	I0	Zero Sequence Current	
				q	I0	Quality is judged by application	
		SeqV.c1	SEQ.CMV	cval.mag.f	V1	Positive Sequence Voltage	
q	V1			Quality is judged by application			
SeqV.c2	SEQ.CMV	cval.mag.f	V2	Negative Sequence Voltage			
		q	V2	Quality is judged by application			
SeqV.c3	SEQ.CMV	cval.mag.f	V0	Zero Sequence Voltage			
		q	V0	Quality is judged by application			
MMTR1	ST	SupWh	BCR	actVal	+Pt	Real energy supply (direction: + Wh)	
				q	+Pt	Quality is judged by application	
		SupVArh	BCR	actVal	+Qt	Reactive energy supply (direction: + Varh)	
				q	+Qt	Quality is judged by application	

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LD (Logical device)	LN (Logical node)	FC (Function constraint)	Data object name	CDC (Common data class)	Data attribute name	Signal Name	Comments	
			DmdWh	BCR	actVal	-Pt	Real energy demand (direction: - Wh)	
					q	-Pt	Quality is judged by application	
			DmdVArh	BCR	actVal	-Qt	Reactive energy demand (direction: - Varh)	
					q	-Qt	Quality is judged by application	
	GGIO1 DI	ST		Ind1	SPS	stVal	DI1	DI1-1
				Ind2	SPS	stVal	DI2	DI1-2
				Ind3	SPS	stVal	DI3	DI1-3
				Ind4	SPS	stVal	DI4	DI1-4
				Ind5	SPS	stVal	DI5	DI1-5
				Ind6	SPS	stVal	DI6	DI1-6
				Ind7	SPS	stVal	DI7	DI1-7
				Ind8	SPS	stVal	DI8	DI1-8
	GGIO2 DO	ST		Ind1	SPS	stVal	DO1	DO-1
				Ind2	SPS	stVal	DO2	DO-2
				Ind3	SPS	stVal	DO3	DO-3
				Ind4	SPS	stVal	DO4	DO-4
				Ind5	SPS	stVal	DO5	DO-5
				Ind6	SPS	stVal	DO6	DO-6
				Ind7	SPS	stVal	DO7	DO-7
				Ind8	SPS	stVal	DO8	DO-8
	GGIO4 PLC	ST		Ind1	SPS	stVal	COMM0	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.
				Ind2	SPS	stVal	COMM1	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.
Ind3				SPS	stVal	COMM2	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
Ind4				SPS	stVal	COMM3	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
Ind5				SPS	stVal	COMM4	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
Ind6				SPS	stVal	COMM5	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
Ind7				SPS	stVal	COMM6	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
Ind8				SPS	stVal	COMM7	The internal signals can be assigned to this communication port on PLC function in PC-HMI. The assigned signals are published via IEC 61850.	
GGIO100 GOOSE	ST		Ind1	SPS	stVal	GOOSE1	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind2	SPS	stVal	GOOSE2	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind3	SPS	stVal	GOOSE3	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind4	SPS	stVal	GOOSE4	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind5	SPS	stVal	GOOSE5	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind6	SPS	stVal	GOOSE6	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind7	SPS	stVal	GOOSE7	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind8	SPS	stVal	GOOSE8	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind9	SPS	stVal	GOOSE9	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind10	SPS	stVal	GOOSE10	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind11	SPS	stVal	GOOSE11	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind12	SPS	stVal	GOOSE12	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind13	SPS	stVal	GOOSE13	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind14	SPS	stVal	GOOSE14	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind15	SPS	stVal	GOOSE15	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind16	SPS	stVal	GOOSE16	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind17	SPS	stVal	GOOSE17	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind18	SPS	stVal	GOOSE18	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind19	SPS	stVal	GOOSE19	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind20	SPS	stVal	GOOSE20	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind21	SPS	stVal	GOOSE21	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	
			Ind22	SPS	stVal	GOOSE22	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.	

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LD (Logical device)	LN (Logical node)	FC (Function constraint)	Data object name	CDC (Common data class)	Data attribute name	Signal Name	Comments		
			Ind23	SPS	stVal	GOOSE23	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind24	SPS	stVal	GOOSE24	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind25	SPS	stVal	GOOSE25	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind26	SPS	stVal	GOOSE26	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind27	SPS	stVal	GOOSE27	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind28	SPS	stVal	GOOSE28	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind29	SPS	stVal	GOOSE29	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind30	SPS	stVal	GOOSE30	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind31	SPS	stVal	GOOSE31	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind32	SPS	stVal	GOOSE32	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind33	SPS	stVal	GOOSE33	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind34	SPS	stVal	GOOSE34	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind35	SPS	stVal	GOOSE35	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind36	SPS	stVal	GOOSE36	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind37	SPS	stVal	GOOSE37	The received signal from GOOSE. This signal can be use as an internal signals on PLC function in PC-HMI.		
			Ind38	SPS	stVal	G_TRIP1	When this signal recieve other relay operation condition, the CBF/CBFG element in own device are operated (activated). This signal via IEC 61850 is used instead of digital input (hardwire).		
			Ind39	SPS	stVal	G_TRIP2	When this signal recieve other relay operation condition, the CBF/CBFG element in own device are operated (activated). This signal via IEC 61850 is used instead of digital input (hardwire).		
			Ind40	SPS	stVal	G_TRIP3	When this signal recieve other relay operation condition, the CBF/CBFG element in own device are operated (activated). This signal via IEC 61850 is used instead of digital input (hardwire).		
			GGIO200 Alarm	ST	Alm1	SPS	stVal	TCNT_ALM	trip counter limit over
					Alm2	SPS	stVal	TCOIL_ALM	trip coil supervision
Alm3	SPS	stVal			V0SV_ALM	V0 supervision			
Alm4	SPS	stVal			IOSV_ALM	I0 supervision (Residual current only)			