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Monitoring Relay 7UG0 and Timers 7PV0

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7UG0 Monitoring Relays

Range:

- Line monitoring relays
- Voltage monitoring relays
- Earth leakage relay
- Current monitoring relays
- Temperature controlling relay
- Earth fault monitoring relays
- Thermistor motor protection relay New
- Speed monitoring relay New
- Water level controller relay New

Relay	MLFB	Ø	Phase failure protection	Imbalance protection	Phase reversal protection	Under voltage protection	Over voltage protection	Under freq protection	Over freq protection	Earth leakage protection	Under current protection	Over current protection	Earth fault	Input for TC
Line monitoring relay	7UG0 712	3Ø 3W	✓	✓	✓									
	7UG0 818	3Ø 3W / 3Ø 4W	✓	✓	✓	✓	✓	✓	✓					
Voltage Monitoring relay	7UG0 753	3Ø 3W	✓		✓	✓	✓							
Current Monitoring relay	7UG0 82	1Ø 2W	✓	✓							✓	✓		
	7UG0 83	1Ø 2W / 3Ø 3W / 3Ø 4W	✓	✓							✓	✓		
Earth leakage relay	7UG0 84	1Ø 2W / 3Ø 3W / 3Ø 4W								✓				
Earth fault monitoring relay	7UG0 86	1Ø 2W / 3Ø 3W / 3Ø 4W											✓	
Temperature controller (TC)	7UG0 48													TC / RTD

New

Relay type	MLFB	Sensor type
Thermistor motor protection relay	7UG0 881	PTC
Speed Monitoring relay	7UG0 583	5 to 30VDC from proximity switches, Solid state devices Encoders Potential free contacts
Water level controller relay	7UG0885	Conductive sensor probes: Stainless Steel

Features:

- Monitoring of electrical parameters viz: Phase sequence
Phase imbalance, Phase Failure
- Protection from under / over current / voltage and unbalance / asymmetry
- LCD display for 35mm width product
- Din rail mounting except TC which is Panel mountable
- Compact dimensions

Benefits:

- Wide sensing range leads to fewer variants – optimized inventories
- Durable and maintenance free product
- DIN rail mounting – Quick & Easy Installation
- Giving uniformity and better aesthetics
- Reliable protection from voltage and leakage current
- CE and RoHS compliant

Monitoring Relays: Technical data

			Line monitoring relay		Voltage monitoring relay	Current monitoring relay	Earth Leakage monitoring relay	Earth fault monitoring relay
			7UG0712-1AA20	7UG0818-1CA20	7UG0753-1AA20	7UG0 821-1AB20, 7UG0 822-1AD20 & 7UG0 831-1AB20, 7UG0 832-1AD20	7UG0841-1CB20 & 7UG0842-1CD20	7UG0861-1BU20
Main Circuit	Rated Insulation Voltage [Ui]	Ui (V) AC	480	500	480	300	300	300
	Rated system supply voltage [Ue]	Ue (V) AC	415			230/240 for 7UG082.. 415 for 7UG083..		
	Operating band	V / I	154 - 480V (L-L)	280 - 500V AC (L-L) 160 - 288V AC (L-N)	310 - 480V AC (L-L)	1A - 999A AC (with External CT)	10mA - 30A	10% - 80% of CBCT current
	Rated Control supply (Aux. voltage)	V	Built-in			110 / 230 V AC ±15%	110 & 240 V AC +/- 15%	85...270AC/DC
	Rated Impulse Withstand Voltage [Uimp] (For Overvoltage Category II)	kV	2.5	4	2.5	2.5	2.5	2,5
	Rated Frequency	Hz	50/60					
	Pollution Degree For PCB For Product		2 3					
Current/ Voltage Range	Measuring range (RMS value)	V / A	154 - 480 V AC	10 - 500 V AC (L-L) 10 - 288 V AC (L-N)	310 - 480 V AC	0--1.19 kA	4mA - 30A	1A...630A
	Setting range	V / A	fixed	280 - 500 V AC (L-L) 160 - 288 V AC (L-N)	310 - 480 V AC	Pri: 1A...999A Sec: 1A / 5A	10mA - 30A	CT Primary: 160A, 250A, 630A and Trip Setting (Earth Fault) 10% - 80% of rated current
Response	Response time maximum	ms	200	<200ms	<200	<200ms	<30ms for >/- 5x set value <50ms for >/- 1x set value	<100
	Recovery time	ms	<300ms	0 -99.9 sec (Settable)	<300ms	< / = 300ms (On removal of fault)	0 -99.9 sec (Settable)	0-99.9sec (In auto reset mode)
	Accuracy	%	±3% of FS for Time	±5% of setting + 200ms ±1% of setting for Voltage ±0.3% of setting for Frequency	±5% of FS for Time ±1% of FS for Voltage	±1% of Setting ±2 Digit for Current ±5% of Setting + 200ms for time - Recovery Time, Trip Delay, Power ON Delay	±5% of setting + 100ms ±5% of setting for current	Current: ± 5% of setting + 2 digits Time: ± (5% of Setting + 100ms)
	Power consumption	VA	22 VA	30VA max	22 VA	15VA	3VA max	4VA Max
Endurance	Mech endurance operating cycles	(mio)	10	10	10	10	10	10
	Elect endurance AC15:3A @ 250V AC (900 ops./hr)	(mio)	0.1	0.1	0.1	0.1	0.1	0.1
	Ambient temperature (Operational)	° C	0 to 50	0 to 50	0 to 50	0 to 50	0 to 50	0 to 50
	Ambient temperature (storage)	° C	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
	Screw tightening torque	NM	0.6	0.5	0.6	0.5	0.5	0,5
	Conductor cross section (Solid)	Sq mm	1 x (0.75 to 2.5) 2 x 0.5 to 2x 1.5	1 x (0.75 to 2.5) 2 x 0.5 to 2x 1.5	1 x (0.75 to 2.5) 2 x 0.5 to 2x 1.5	1 x (0.75 to 2.5) 2 x 0.5 to 2x1.5	1 x (0.75 to 2.5) 2 x 0.5 to 2x 1.5	1 x (0.75 to 2.5) 2 x 0.5 to 2x 1.5
	Conductor cross section fine stranded with end sleeve	Sq mm	2 x (0.5 to 1.5) 1 x (0.5 to 2.5)	2 x (0.5 to 1.5) 1 x (0.5 to 2.5)	2 x (0.5 to 1.5) 1 x (0.5 to 2.5)	1 x (0.5 to 2.5) 2 x (0.5 to 1.5)	2 x (0.5 to 1.5) 1 x (0.5 to 2.5)	2 x (0.5 to 1.5) 1 x (0.5 to 2.5)
	Degree of protection of Device		IP20					

			Line monitoring relay		Voltage monitoring relay	Current monitoring relay	Earth Leakage monitoring relay	Earth fault monitoring relay
Network	Protection (AC network)	1Ø - 2W	–	–	–	✓	✓	✓
		3Ø, 3W	✓	✓selectable	✓	✓	✓	✓
		3Ø, 4W		✓selectable		✓	✓	✓
Features	Pre-warning	A				–	Y(50-100%)	Yes (50-100%)
	CBCT error	A				–	✓	
	Earth Leakage / Fault trip setting	A				–	10mA--30A	10% to 80% of FLC
	Phase failure	V	✓	✓	✓	–	–	–
	Phase reversal	V	✓	✓	✓	–	–	–
	Phase imbalance / Current Assymetry	V / I	30V fixed	5 - 99.9%	-	✓		
	Under voltage/ Under current protection	V / A		280-500 V _{L-L} for 3Ø, 3W 160-288 V _{L-N} for 3Ø, 4W	310 - 405V	0---999A		
	Over voltage/ Over current protection	V / A		280-500 V _{L-L} for 3Ø, 3W 160-288 V _{L-N} for 3Ø, 4W	425 - 480V	0.5A---1.19KA		
	Under freq protection	Hz		45 - 65		–		
	Over freq protection	Hz		45 - 65		–		
Reset	Auto/ Manual / Remote		A	A/M	A	A / M	A/M/R	A/M/R
Delay	Hysteresis	V / A	6V	1 - 99 for V 0.2 - 2 for Hz 2 - 2-% for Asymmetry	2V	0.1--99.9A	5 - 40 % of set value	1 to 10% of Fault current setting
	Power on delay	s	200 ms	2 - 99.9s	400ms	0.5--99.9s	0.5 - 99.9s	0.5--99.9s
	Trip time delay	s	Fixed	0 - 99.9s	0.2 - 10	0--99.9s	0 - 99.9s	0--99.9s
	Recovery time setting	s		0 - 99.9s		0---99.9s	0 - 99.9s	0---99.9s
Output	Max current (Ith)		5A			5A	5A	
	Contacts @ AC 15, 250VAC	1C/O	3A / 250V		3A / 250V	3A / 250V		
	Contact s @ AC 15, 250VAC	2x 1C/O		3A / 250V		–	3A / 250V	3A / 250V AC
	Contacts @ AC 12, 250VAC	1C/O	5A / 250V		5A / 250V	5A / 250V		
	Contact s @ AC 12, 250VAC	2x 1C/O		5A / 250V			5A / 250V	5A / 250V
	Terminal Connections		Screw					
	Display		Green LED on: Power ON Green LED off: Fault indication	"ON" LED: Power ON "R1" LED: Fault in Relay 1 "R2" LED: Fault in Relay 2 LCD: Parameters & Fault type	Green LED on: Relay ON Red LED on: Power ON	LED "ON": Power on "R1" LED: Fault in relay LCD: LCD: Parameters & fault type	"ON" LED: Power ON "R1" LED: Fault in Relay 1 "R2" LED: Fault in Relay 2 LCD: Parameters & Fault type	LCD with Backlight
Dimensions	Width	mm	17.5	35	17.5	35	35	35
	Depth	mm	60	70.5	60	71	70.5	70.5
	Height	mm	90	90	90	90	90	90
	Weight	g	62	135	62	135	207	207
	Mounting Orientation		35mm DIN rail any					
Accessories			–	–	–	Additional Requirement: External CT, Class 0.5: 1A/5A secondary	CBCT	CBCT
Certificates	Approbation		CE					
	Standard Compliance		IEC 60947-4-1 & IEC 60947-5-1			IEC 60947-5-1	IEC 60947-4-1 & IEC 60947-5-1	IEC 60947-4-1 & IEC 60947-5-1

Selection and Ordering Data: Monitoring Relays



7UG0 712...



7UG0 753...



7UG0 84...



7UG0 99...



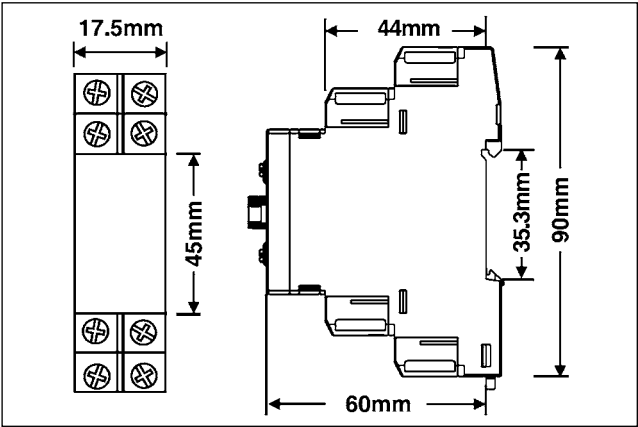
7UG0 48...

Type	Description	Contacts	Supply voltage	Width mm	MLFB
Line monitoring Relay	Line monitoring relay, 3Ø-3W	1 CO	Self Powered	17.5	7UG0 712-1AA20
	Digital Line monitoring relay, 3Ø-3W, 3Ø-4W	2 CO	Self Powered	35	7UG0 818-1CA20
Voltage monitoring Relay	Voltage monitoring relay, 3Ø-3W	1 CO	Self Powered	17.5	7UG0 753-1AA20
Current monitoring Relay	Digital Current monitoring, 1Ø-2W	1 CO	110V AC	35	7UG0 821-1AB20
	Digital Current monitoring, 1Ø-2W	1 CO	230V AC	35	7UG0 822-1AD20
	Digital Current monitoring, 1Ø-2W, 3Ø-3W, 3Ø-4W	1 CO	110V AC	35	7UG0 831-1AB20
	Digital Current monitoring, 1Ø-2W, 3Ø-3W, 3Ø-4W	1 CO	230V AC	35	7UG0 832-1AD20
Earth Leakage Relay	Digital Earth Leakage Monitoring, 1Ø-2W, 3Ø-3W, 3Ø-4W	2 CO	110V AC	35	7UG0 841-1CB20
	Digital Earth Leakage Monitoring, 1Ø-2W, 3Ø-3W, 3Ø-4W	2 CO	230V AC	35	7UG0 842-1CD20
CBCT for Earth leakage relay	Core Balance CT 35 mm				7UG0 996
	Core Balance CT 70 mm				7UG0 997
	Core Balance CT 120 mm				7UG0 999
	Core Balance CT 210 mm				7UG0 994
	Core Balance CT 310 mm				7UG0 995
Temperature controlling relay	Temperature controller with PID/ON-OFF Control suitable for TC / RTD inputs	2 NO + SSR output	85 - 270 V AC/DC	48	7UG0 480-1IU20
Earth fault monitoring relay	Digital earth fault monitoring relay 1Ø-2W, 3Ø-3W, 3Ø-4W	2 CO	85 - 270 V AC/DC	35	7UG0 861-1BU20
CBCT for earth fault monitoring relay *	Core Balance CT 160A	3P			7UG0 9910
		4P			7UG0 9911
	Core Balance CT 250A	3P			7UG0 9912
		4P			7UG0 9913
	Core Balance CT 630A	3P			7UG0 9914
		4P			7UG0 9915
Thermistor motor protection relay	Thermistor motor protection relay for PTC type thermistor	2 CO	110 - 240 V AC/DC	35	7UG0881-1BU20
Speed monitoring relay	Speed monitoring relay	2 X 1CO	110 - 240 V AC/DC	70	7UG0583-1CU20
Water level controller relay	Water level controller relay	2 X 1NO	110 - 240 V AC/DC	35	7UG0885-1JU20
Sensor for water level controller relay	Conductive sensor probe set of 3 probes				7UG0985-0YY00

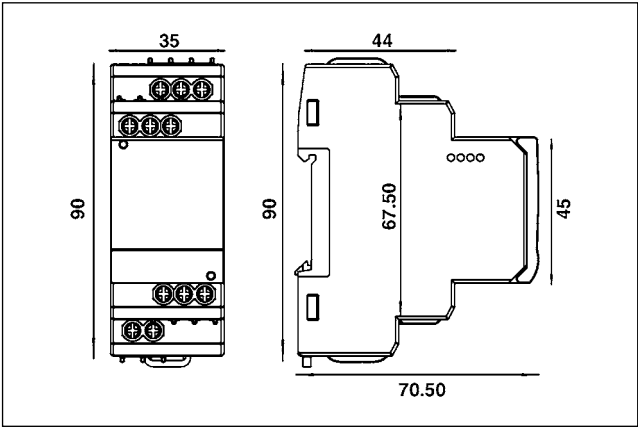
* CBCT for Earth fault monitoring relay will be rectangular in dimension

Dimensional drawings: Monitoring relays

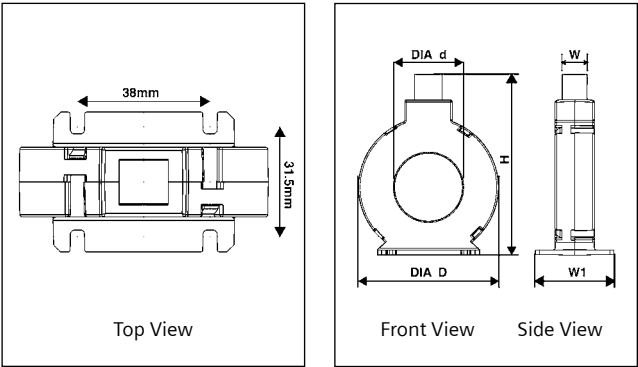
7UG0 7...



7UG0 8...

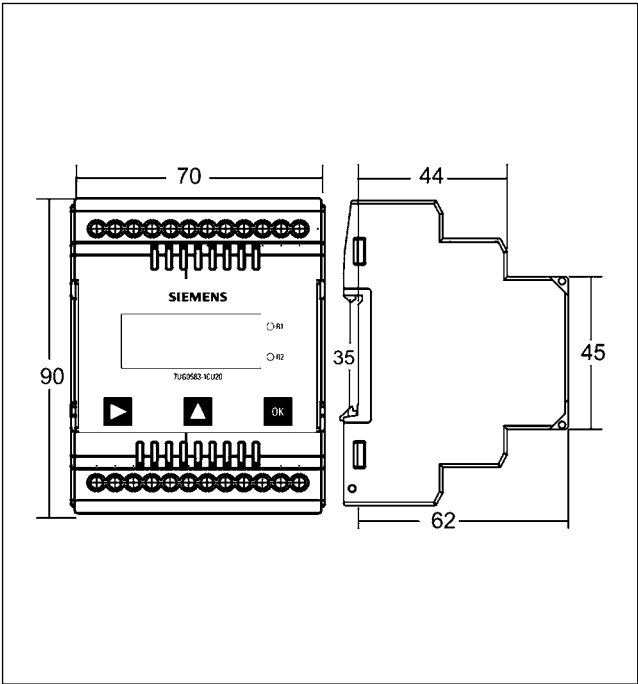


7UG0 9... (ELR CBCT)



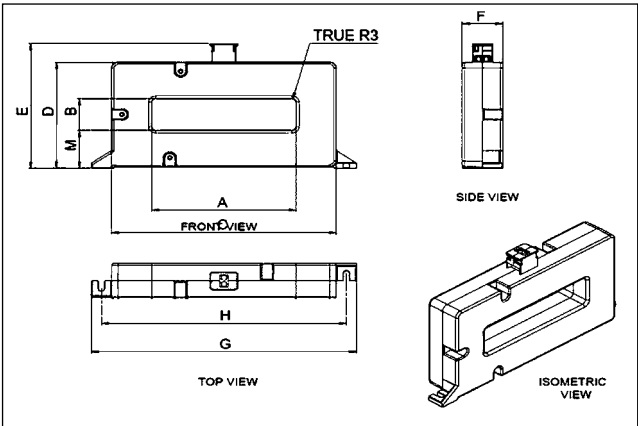
CBCT TYPE	Dimensions (mm)				
	D	d	H	W	W1
7UG0996	70	35	96	10	40
7UG0997	107	70	131	10	40
7UG0999	157	120	184	10	40
7UG0994	268	210	270	–	55
7UG0995	377	310	380	–	65
STD.TOL.	2 - 3	5 - 6	–	1.5 - 2	–

7UG0 5...

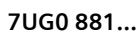
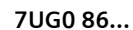
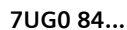
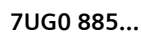
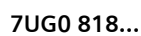


7UG0 9... (EFR CBCT)

Product	Dimensions (mm)								
	A	B	C	D	E	F	G	H	M
7UG09910	100	25	156	84	100	28	184	170	30
7UG09911	140	35	201	98	114	28	230	215	32
7UG09912									
7UG09913	180	35	236	93	109	28	264	250	30
7UG09914									
7UG09915	220	50	276	112	128	28	305	290	32



7UG0 71, 7UG0 75...



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DF-PD-E0223

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