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RELAY SELECTION GUIDE- CURRENT & VOLTAGE PROTECTION (Electromechanical Vs Numerical Relay)



SYSTEM CONTROLS & SWITCHGEARS

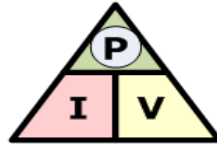


Online Solutions for Electrical Needs

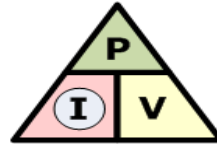


Overview

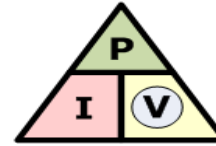
System controls & switchgears is one of the fastest growing companies in India. Established in 1983, a privately owned company has unrivalled experience in the distribution of electrical products. SCS business covers a broad range of Medium Voltage Switchgears, Low Voltage Switchgears, Power Capacitors, Internal wiring accessories, Lighting, Metal Detectors, Energy Management Products and other products. Over the last 3 decades history, we've developed strong relationships with customers. Our strength lives in all of our people, who have extended our tradition of service and integrity to customers in every location and situation, and who take pride in making us one of the most resilient resources in the products we deal.



$$\textcircled{P} = I \times V$$

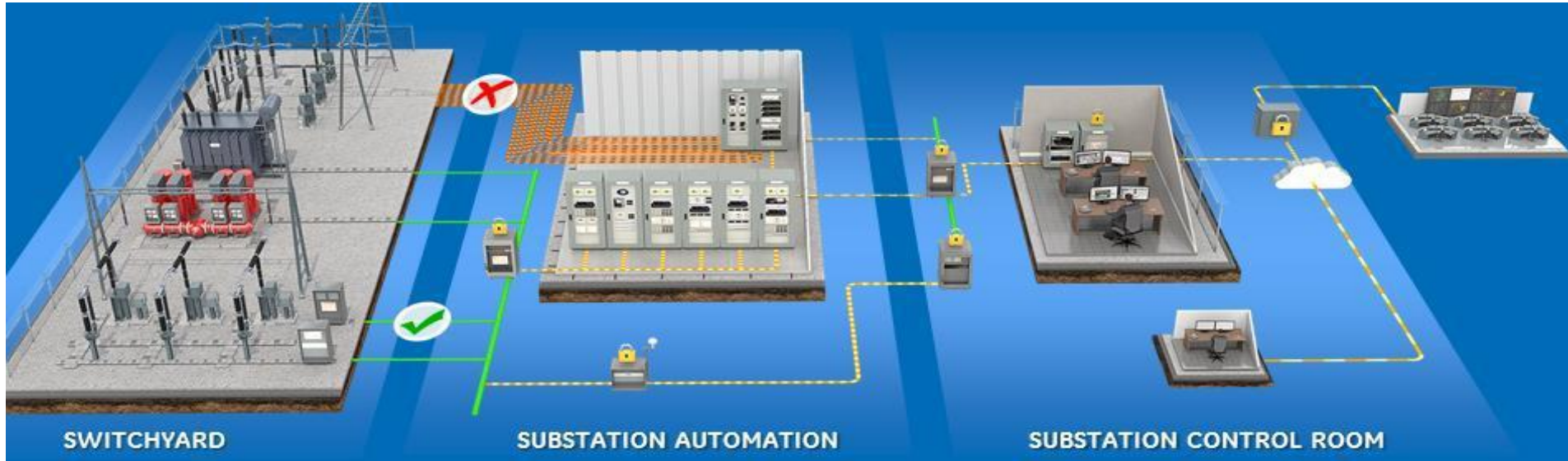


$$\textcircled{I} = \frac{P}{V}$$



$$\textcircled{V} = \frac{P}{I}$$

Power	=	Current	×	Voltage
P		= I	×	V



Current Protection relay

ANSI Code	Description	Electromechanical relay Model	Numerical relay Model
51/51N	Non Dir Inverse O/C or E/F	CDG11	P153/P154
51 & 51/51N	Non Dir Inverse 3O/C or 2O/C + 1 E/F	CDG31	
51 & 50 /51, 50, 51N,	NON Dir Inverse 3O/C or 2O/C + 1 E/F With High Set	CDG61	
50	Instantaneous O/C or E/F relay	CAG12	
50N	Sensitive E/F	CTUM15	
64R	Restricted Earth Fault With stab Resistance	CAG14	

Current Protection relay

P153 Vs P154

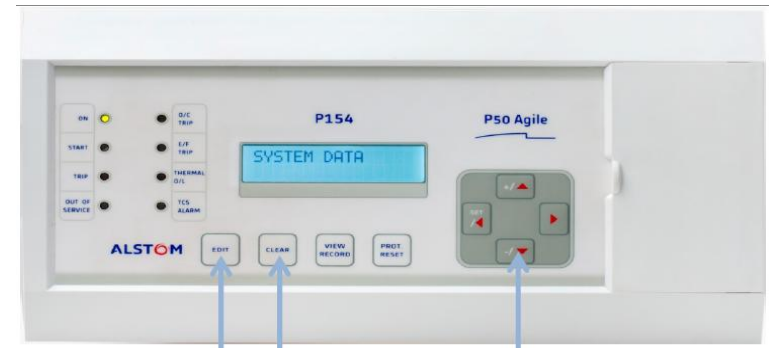
Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	Agile P153	Modbus/IEC103/ 60870	4	4	4	0	50, 50N, 51, 51N, 68, 49, 37, 46, 46BC, 50BF, CLP, 86, 74
b	Agile P154	Modbus/ IEC103/ DNP 3	6	6	4	0	50, 51, 50N, 51N, 46, 49, 50 BF, 64R , 86, 95, 68, 37, 46BC, CLP

64R RESTRICTED EARTH FAULT

P153 RELAY



P154 RELAY

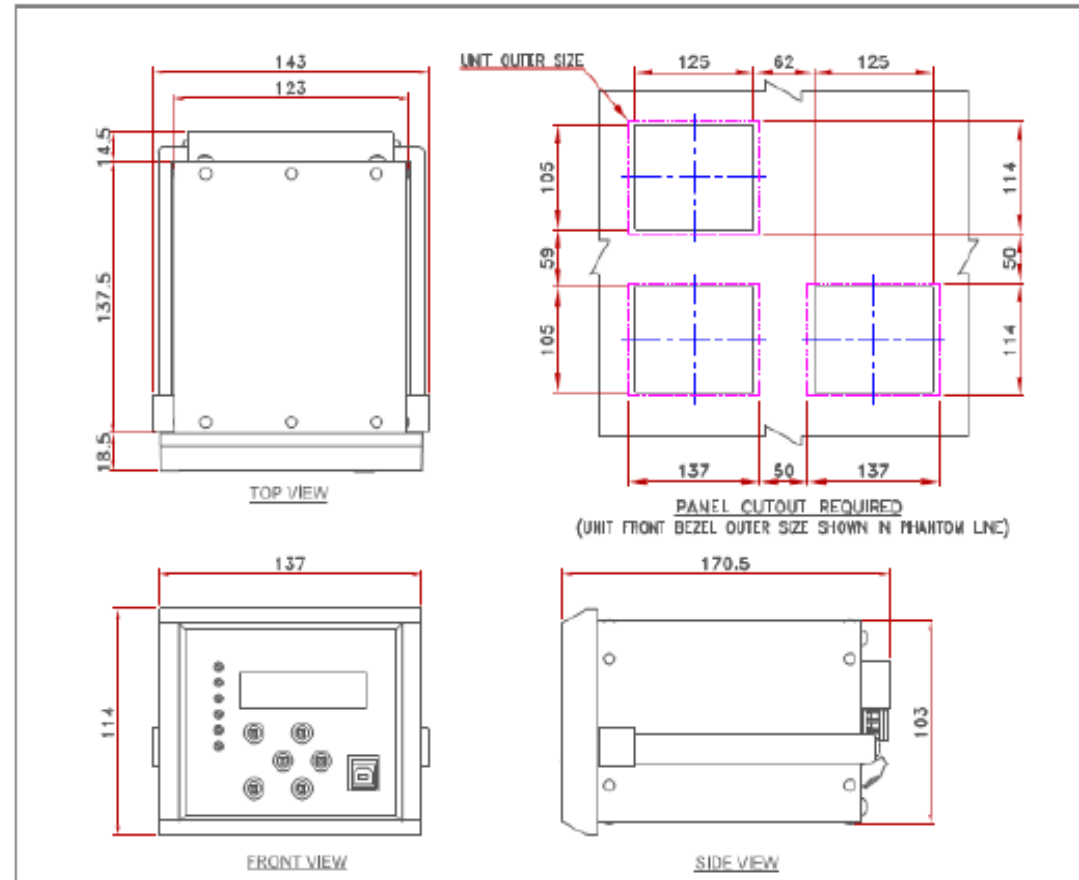


MICOM P153

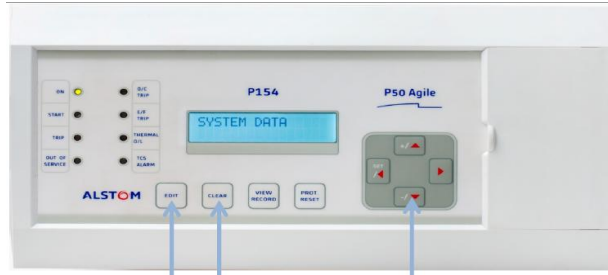


Design -Flush mounting case

Weight -1.9 Kg approximate



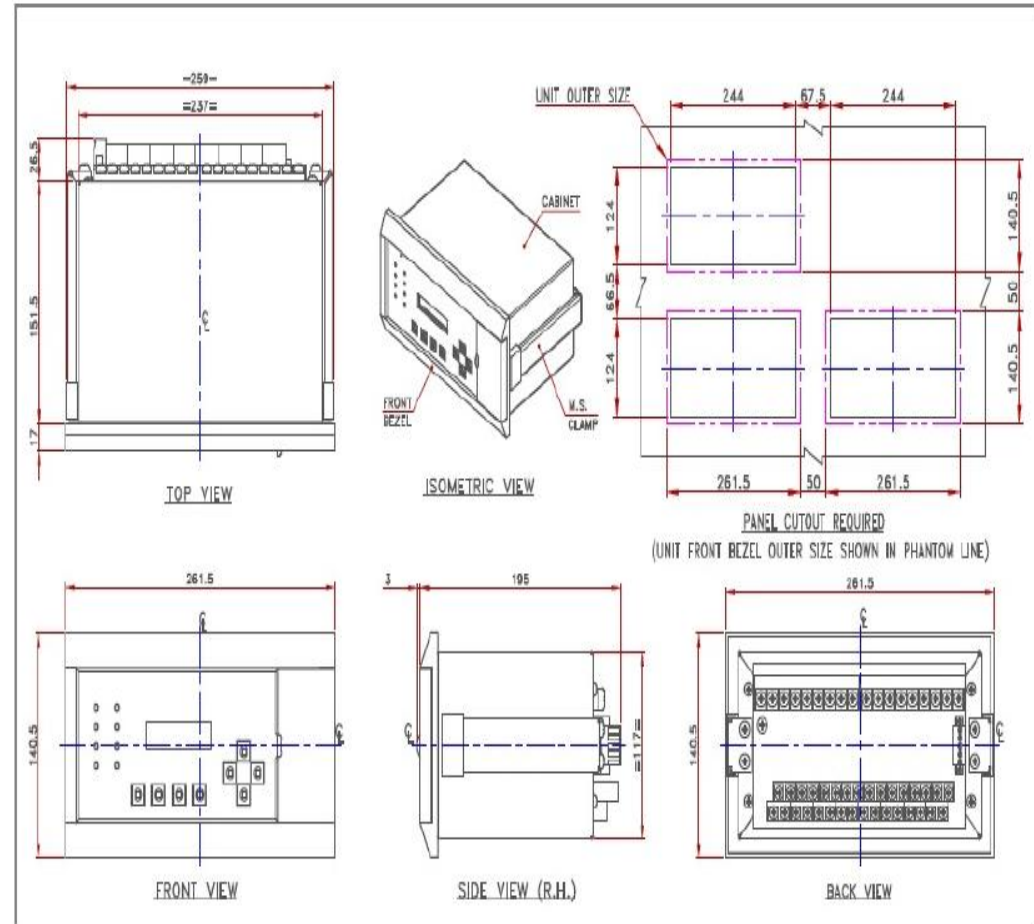
MICOM P253



P153 case dimensions

Design Flush mounting case

Weight 3.50 Kg approximate



VOLTAGE Protection relay

ANSI Code

Description

Electromechanical relay Model

Numerical relay Model

59

Inverse Type O/V Relay

VDG11

27

Inverse Type U/V Relay

VDG13

59N

Inverse Type Neutral Displacement RELAY

VDG14

59/27

Single pole instantaneous No-voltage
/Undervoltage/ Overvoltage

VAG21

P94V

VOLTAGE Protection relay

P94VB Vs P94VP

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	Agile P 94 VB	Modbus / IEC103	3	4	0	4	27,59,59N,47,81O,81U,81df/dt,86,80
		61850	8	8	0	4	
b	Agile P 94 VP	Modbus / IEC103	3 / 8 / 11	4 / 8 / 12	0	4	27,59,59N,47,81O,81U,81df/dt,86,80+ 25+(DV/DT)+81RF+81RAV+81R
		61850	8	8	0	4	

25 -Check synchronising

(dv/dt) -Rate of change of voltage

81RF- Frequency supervised rate of change of frequency

81RAV- Frequency supervised average rate of change of frequency

81R- Load Restoration



VOLTAGE & Current Protection relay

ANSI Code	Description	Electromechanical relay Model	Numerical relay Model
25	Synchronising Relay	SKE11/SKD11	P14DG
32	Reverse power relay	CCUM21	
60	Fuse Fail relay	VAPM31	



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Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	Agile P14DG	Modbus / IEC103/61850	8 / 13	8 / 12	4	4	50,51,51N,50N,46,47,49,46BC,67,67N,68,37, CBFP,27,59,59N,81U,81O81DF/DT,86,80,60,25, 32,95

P14DG-30TE case dimensions

Case Types 30TE

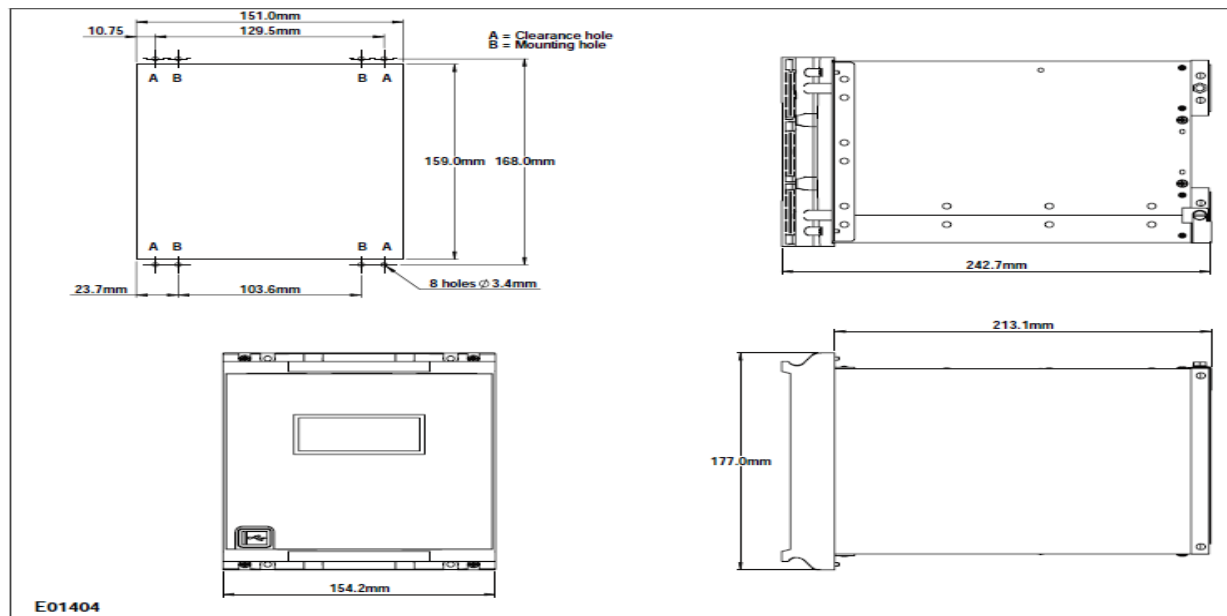
Weight (30TE case) 3 kg – 4 kg

(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case)

W: 154.2mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



❖Disclaimer:-

Info given herein is for ease of understanding. Customized tech info is for specific purpose SCS suggests you to take confirmation on technical details from GE experts SCS does not take responsibility or claim this will suit your needs.



SYSTEM CONTROLS & SWITCHGEARS

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