

# SD-Pocket: Annex for PR122/P

## 1. Appendix PR122

Some parameters are displayed only in certain conditions. For example, measurements, signals and voltage protections are displayed only if the voltage module is present. For details, see protection unit documentation.

Primary pages	Secondary pages	Other pages
Information	General parameters	
	Status	
	Event log	
Alarms	Protection alarms	
	Advanced protection alarms	
	Other alarms	
	Connection alarms	
Trip	Trip	
	Last trip	
	Trip history	
	Commands	
Measurements	Currents	
	Voltages	
	Active powers	
	Reactive powers	
	Apparent powers	
	Power factor	
	Frequency	
	Peak factors	
	Energies	
	Historical measure	
	Protection configuration	Protection L
Protection S		
Protection I		
Protection G		
External protection G		
Protection U		
Protection UV		
Protection OV		
Protection RV		
Protection RP		
Protection UF		
Protection OF		
Protection T		
Configuration LC		
Protection Rc		
Statistics	Communication statistics	
	CB operations statistics	
	Commands	
P1 – P4 configuration	P1 Contact	Custom function
	P2 Contact	Custom function
	P3 Contact	Custom function
	P4 Contact	Custom function
	Signalling input	
PR021/K configuration	k51/1 Contact	Custom function
	k51/2 Contact	Custom function
	k51/3 Contact	Custom function
	k51/4 Contact	Custom function
	k51/6 Contact	Custom function
	k51/7 Contact	Custom function
	k51/8 Contact	Custom function
Datalogger	Parameters	Trigger
	Commands	Datalogger acquisition
	Status	
	Time stamp	
Unit configuration	Unit configuration	
	Plant configuration	
	Communication parameters	
	TAG name – User Data	

## 1.1 Information

### 1.1.1 General parameters

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Standard reference
Nominal current
Installation date
SW version
Relay serial number
Execution
CB type
CB serial number

### 1.1.2 Status

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

CB status: open / close
CB status: undefined
CB status: trip
CB position: inserted /isolated
Springs status
Operating mode
Connection of test unit
Trip command result

## 1.2 Alarms

### 1.2.1 Protection alarms

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

L Pre-alarm
L Timing
S Timing
G Timing
G Alarm (blocked trip)
G Alarm (external sensor)
G Alarm (external sensor - blocked trip)

### 1.2.2 Advanced protection alarms

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

T Pre-alarm
T Timing
T Alarm (blocked trip)
U Timing
U Alarm (blocked trip)
UV Timing
UV Alarm (blocked trip)
OV Timing
OV Alarm (blocked trip)
RV Timing
RV Alarm (blocked trip)
RP Timing
RP Alarm (blocked trip)
UF Timing
UF Alarm (blocked trip)
OF Timing
OF Alarm (blocked trip)

### 1.2.3 Other alarms

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Harmonic distortion
Contact wear pre-alarm
Contact wear alarm
Load control 1 alarm
Load control 2 alarm
Frequency error
Iw warning
Power factor error
Phase cycle error
Date error
Configuration error
CB status error
Local Bus Analog value

### 1.2.4 Connection alarms

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Rogowski phase 1
Rogowski phase 2
Rogowski phase 3
Rogowski neutral
G External sensor
Trip coil
Rating plug
Key plug
Temperature sensor

## 1.3 Trip

### 1.3.1 Trip

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Electronic Trip Test
Simulated Trip
L Tripped
S Tripped
I Tripped
Iinst Tripped
G Tripped
G Tripped (external sensor)
T Tripped
UN Tripped
UV Tripped
OV Tripped
RV Tripped
RP Tripped
UF Tripped
OF Tripped
HW Error Trip
External Input Trip

### 1.3.2 Last trip

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Protection tripped
Trip number
Day
Hours
Minutes
Seconds
Milliseconds
RMS L1 current
RMS L1 current
RMS L3 current
RMS Neutral current
Contact wear

Depending on the protection that has been tripped, other information is available:

Type of trip	Additional Information		
G	Internal ground current		
External G	External ground current		
UV / OV	U12	U23	U31
RV	U0		
RP	Total active power		
UF / OF	Frequency		

### 1.3.3 Trip history

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>All users</li></ul>

### 1.3.4 Commands

<b>Attribute</b>	Reading / Writing
<b>Access rights</b>	<ul style="list-style-type: none"><li>Administrator</li><li>Users enabled for the commands</li></ul>

Trip reset
Historical trips reset

## 1.4 Measurements

### 1.4.1 Currents

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>All users</li></ul>

Maximum current
Maximum phase
RMS current phase 1
RMS current phase 2
RMS current phase 3
RMS neutral current
RMS ground current
RMS external ground current

### 1.4.2 Voltages

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>All users</li></ul>

RMS voltage phase 1 – neutral (U1)
RMS voltage phase 2 – neutral (U2)
RMS voltage phase 3 – neutral (U3)
RMS residual voltage (U0)
RMS voltage line 1 – line 2 (U12)
RMS voltage line 2 – line 3 (U23)
RMS voltage line 3 – line 1 (U31)

### 1.4.3 Active power

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>All users</li></ul>

Active power phase 1 (P1)
Active power phase 2 (P2)
Active power phase 3 (P3)
Total active power (P Total)

### 1.4.4 Reactive power

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>All users</li></ul>

Reactive power phase 1 (Q1)
Reactive power phase 2 (Q2)
Reactive power phase 3 (Q3)
Total reactive power (Total Q)

### 1.4.5 Apparent power

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Apparent power phase 1 (S1)
Apparent power phase 2 (S2)
Apparent power phase 3 (S3)
Total apparent power (S Total)

### 1.4.6 Power factor

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Total power factor (cos $\phi$ )
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### 1.4.7 Frequency

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Measured frequency
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### 1.4.8 Peak factor

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Peak factor phase 1
Peak factor phase 2
Peak factor phase 3
Peak factor neutral

### 1.4.9 Energy

<b>Attribute</b>	Read only
<b>Access rights</b>	• All users

Total active energy
Total reactive energy
Total apparent energy
Positive active energy
Negative active energy
Positive reactive energy
Negative reactive energy

## 1.5 Protection configuration

### 1.5.1 L Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Curve type
Threshold I1
Time t1
Enable thermal memory
Threshold I1 – IEC255
Time t1 – IEC255

### 1.5.2 S Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Enable protection
Curve type
Threshold I2 – t = k
Time t2 – t = k
Enable zone selectivity
Zone selectivity time
Enable startup
Startup time
Startup threshold
Threshold I2 – t = k / I <sup>2</sup>
Time t2 – t = k / I <sup>2</sup>

### 1.5.3 I Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Enable protection
Threshold I3
Enable startup
Startup time
Startup threshold

### 1.5.4 G Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Enable protection
Enable trip
Curve type
Threshold $I4 - t = k$
Time $t4 - t = k$
Enable startup
Startup time
Startup threshold
Threshold $I4 - t = k / I^2$
Time $t4 - t = k / I^2$

### 1.5.5 G external protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Enable protection
Enable trip
Curve type
Threshold $I4 - t = k / I^2$
Time $t4 - t = k / I^2$
Threshold $I4 - t = k$
Time $t4 - t = k$
Enable startup
Startup time
Startup threshold
Enable zone selectivity
Zone selectivity time

### 1.5.6 U Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"> <li>Administrator</li> <li>Enabled users</li> </ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.7 UV Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.8 OV Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.9 RV Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.10 RP Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.11 UF Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.12 OF Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

### 1.5.13 T Protection

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable trip
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### 1.5.14 LC configuration

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable Iw threshold
Iw threshold
Enable LCI threshold
LCI threshold
Enable LC2 threshold
LC2 threshold

### 1.5.15 Rc Protection

<b>Attribute</b>	Reading / Writing
<b>Access rights</b>	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Enable protection
Enable trip
Threshold
Time

## 1.6 Statistics

### 1.6.1 Communication statistics

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>• All users</li></ul>

Number of messages received
Number of messages received with CRC error
Number of messages transmitted
Number of messages transmitted with slave busy
Number of messages transmitted with exception

### 1.6.2 CB operations statistics

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>• All users</li></ul>

Contact wear
N° total operations
N° manual operations
Number of openings due to trips
Number of openings due to trip fails
Number of openings due to trip tests

### 1.6.3 Commands

<b>Attribute</b>	Read only
<b>Access rights</b>	<ul style="list-style-type: none"><li>• All users</li></ul>

Communication statistics reset
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## 1.7 P1-P4 Configuration

### 1.7.1 Contact P1 ... Contact P4

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Contact status – normally open / normally closed
Contact status – latched / not latched
Function
Delay

### 1.7.2 Signalling outputs

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Configuration
Function
Delay

## 1.8 PR021/K Configuration

### 1.8.1 Contact k51/1 ... Contact k51/8

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Contact status – normally open / normally closed
Contact status – latched / not latched
Function
Delay

## 1.9 Datalogger

### 1.9.1 Parameters

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Frequency
Status
Trigger type
Stop delay

### 1.9.2 Commands

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Start Datalogger
Datalogger Stop
Start acquisition

### 1.9.3 Status

Attribute	Reading
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Waiting trigger
Acquisition running
Acquisition stopped

### 1.9.4 Time stamp

Attribute	Reading
Access rights	<ul style="list-style-type: none"><li>• Administrator</li><li>• Enabled users</li></ul>

Date
Hours
Minutes
Seconds
Milliseconds

## 1.10 Unit configuration

### 1.10.1 Unit configuration

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>Administrator</li><li>Enabled users</li></ul>

Operating mode
Protection Rc range
External toroid type
External toroid
PR021/K status
Measurement store time (historical measure)
Display language
Harmonic distortion alarm

### 1.10.2 Plant configuration

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>Administrator</li><li>Enabled users</li></ul>

Voltage transformer (VT)
Nominal voltage
Secondary voltage
Neutral voltage
Neutral selection
Neutral protection
Plant configuration
Net frequency
Power direction

### 1.10.3 Communication parameters

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>Administrator</li><li>Enabled users</li></ul>

Slave Address
AddressingType
Baud rate
Protocol Type

**Warning!** These parameters concern the system bus. They have not effect on communication between the device and the program.

### 1.10.4 TAG name – User data

Attribute	Reading / Writing
Access rights	<ul style="list-style-type: none"><li>Administrator</li><li>Enabled users</li></ul>

TAG name
User Data