

S110



Be smart. Measure it

Power and Energy Meter



S110



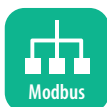
S110-P



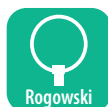
**MULTIFUNCTION
POWER AND
ENERGY METER**
3-phase, 1-phase



**COMPRESSOR
PERFORMANCE**
Helps to identify
compressor efficiency



**MODBUS/
RTU INTERFACE**
Connects to any
Modbus-Master



**ROGOWSKI
COILS**
Wide range,
highly accurate

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Россия +7(495)268-04-70

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Казахстан +7(7172)727-132

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Киргизия +996(312)96-26-47

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

<https://suto.nt-rt.ru/> || sow@nt-rt.ru

Benefits

- ✓ Convenient and easy to set up compressor performance and efficiency monitoring
- ✓ Real power consumption in kW and kWh by measuring each phase voltage and current
- ✓ DIN rail installation for power cabinets or portable version with rugged housing
- ✓ Power range up to 2 MW (2000 kW)
- ✓ Three current sensor models with 100 A, 1000 A or 3000 A available

Operation Principle

The SUTO Power and Energy Meter has been designed with a focus on easy installation and reliable measurements. The main application is to measure the power consumption and the accumulated energy consumption of electrical 3-phase consumers, like compressors, driers and oxygen/nitrogen generators.

The main difference to common power measurements is that all relevant parameters are real measured values and not assumptions. Unlike the traditional method, where only one phase is measured, the voltage is assumed as stable and the phase shift is entered as a constant, the S110 measures the voltage and current of each phase.

By this, the S110 is much more accurate and delivers more reliable measurements compared to single phase current measurements.

Application

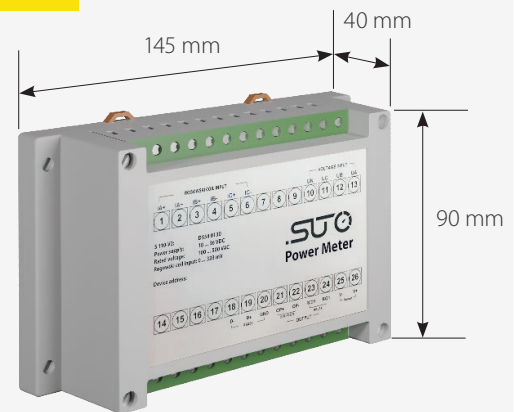
In this illustration, a Power and Energy Meter is installed directly into the connection box of the compressor.

The Rogowski current coils are easy to install, by just clamping them around the power cables. The voltage connection can be drawn directly from the power cabinet of the compressor.

The Power and Energy Meter is then connected to a S330 / S331 Display and Data Logger to record the Voltage and Current of each phase, as well as recording the actual power consumption and the total energy consumption.

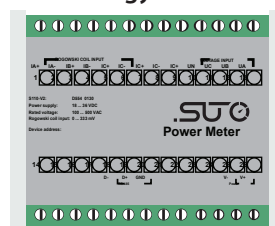
This is not only used to identify inefficient compressors, but also letting the compressed air operator know what the real costs of the compressed air are.

S110



S110

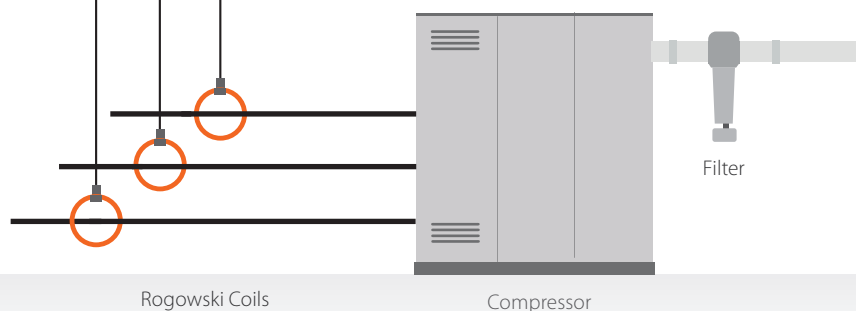
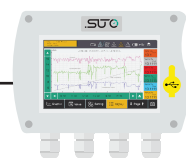
Power and Energy Meter



S331

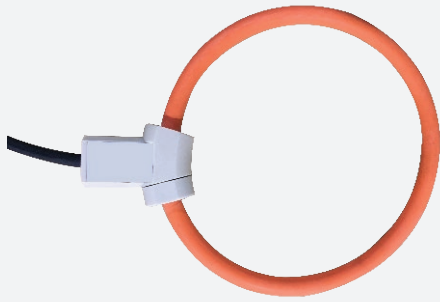
Data Logger

S330 / S331 can be used as stationary display of up to 16 power meters



Rogowski Coils

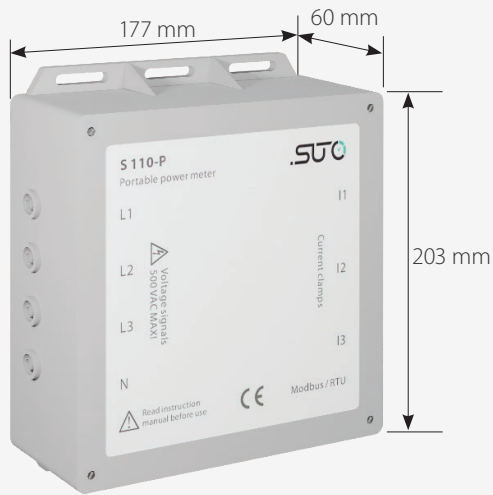
Compressor



Current Measuring via Rogowski coils offers a high accuracy over a wide range and an easy installation.
(Note: for each phase, one coil is needed)



S110-P



Monitoring Software



Wireless Connection

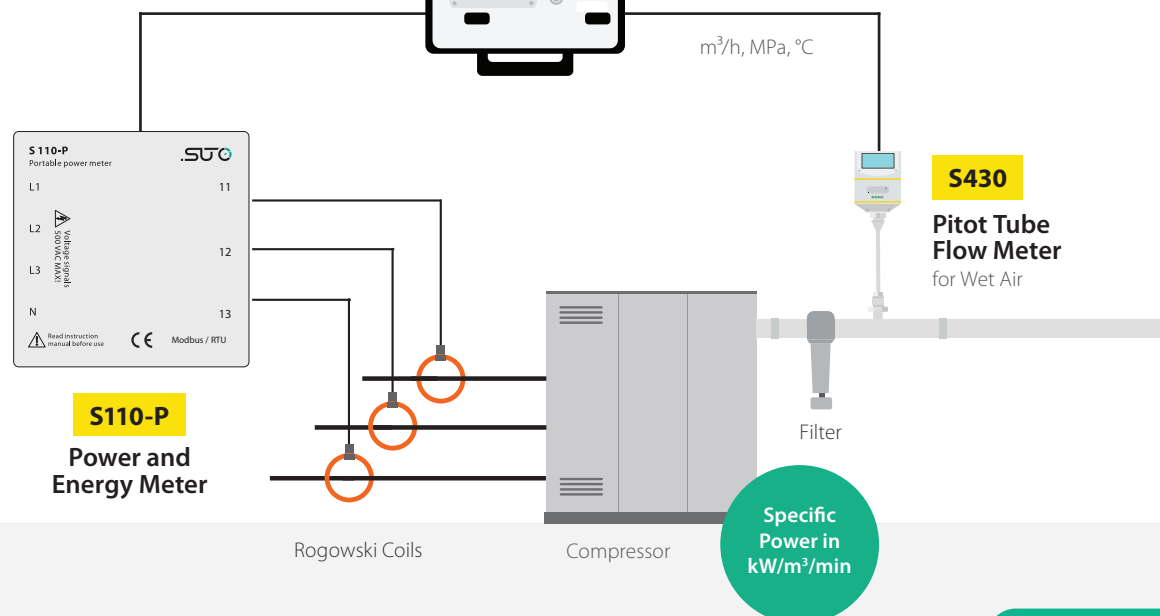
S551

Portable Data Logger

Can be used as on-site portable display

Compressor Efficiency Test

Knowing your compressor efficiency is the first step for your energy saving goals. With this solution you will know, how much electrical energy is needed to produce 1 m³ compressed air and what are the electrical costs.



Technical Data

Measurement

Power / Energy

Accuracy	V = 0.2 %, A = 0.5 %
Selectable units	V, A, kW, kvar, kVA, kWh, Hz
Measuring range	100 ... 500 VAC, up to 2500 kW
Sampling rate	8 k/s

Signal / Interface & Supply

Fieldbus

Protocol	Modbus/RTU
----------	------------

Supply

Voltage supply	S110: 24 VDC 1 W S110-P: 24 VDC 2 W
----------------	--

Current consumption	S110: max. 50 mA S110-P: max. 100mA
---------------------	--

Data interface

Connection	S110: Terminal block S110-P: M12 connector
------------	---

General data

Material

Housing	ABS
---------	-----

Miscellaneous

Protection class	IP20
Approvals	CE
Weight	S110: 0.21 kg S110-P: 0.8 kg

Operating conditions

Ambient temperature	-25 ... +55 °C
Storage temperature	-40 ... +85 °C

Ordering

Please use the following tables to assist in placing your order with our sales staff.

S110 Power and Energy Meter

Order No. Description

Stationary

D554 0130	S110 Power and Energy Meter, hat rail, Modbus/RTU, 24 VDC supply
S554 0140	Electrical Current Transmitter for S110, 1000 A, 100 mm diameter, 1.8 m cable, open ends
S554 0141	Electrical Current Transmitter for S110, 3000 A, 150 mm diameter, 1.8 m cable, open ends
S554 0142	Electrical Current Transmitter for S110, 100 A, 16 mm diameter, 1.8 m cable, open ends

Portable

P554 0134	S110-P Portable Power and Energy Meter, incl. 5 m connection cable to S551 (Modbus/RTU), 4 voltage test leads and 4 test clips
S554 0160	Electrical Current Transmitter for S110-P, 1000 A, 100 mm diameter, 1.8 m cable, connector to S110-P
S554 0161	Electrical Current Transmitter for S110-P, 3000 A, 150 mm diameter, 1.8 m cable, connector to S110-P
S554 0162	Electrical Current Transmitter for S110-P, 100 A, 16 mm diameter, 1.8 m cable, connector to S110-P

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Россия +7(495)268-04-70

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Казахстан +7(7172)727-132

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Киргизия +996(312)96-26-47

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93