Technical
Information
TI 068C/24/ae

Replacement kit for pH compact electrodes *ECOFIT™ CPA 640*

Process connection adapter and cable set for 12 mm pH glass electrodes

The ECOFIT™ system consists of a threaded process connection and sensor cable that allows the direct, retrofit replacement of traditional compact combination pH sensors with 12 mm glass combination electrodes, 120 mm in length. Traditional compact sensors require replacement of the threaded process connection housing and cable with every sensor replacement.

The ECOFIT™ system allows replacement of just the pH measuring sensor element and reuse of the threaded adapter and wiring cable. The total cost of the pH measuring point is thus reduced.

Benefits at a glance

- Lowest cost of ownership for standard pH measuring points
- Allows replacement of fixed cable compact style electrodes
- Affords wide selection of gel and liquid filled pH electrodes
- Quick disconnect TOP 68 allows fast servicing
- TOP 68 connector with NEMA 6P rating, allows prolonged submersion
- Available in PVDF (Kynar™) and 316 Ti SS
- Eliminates associated rewiring costs
- Minimizes exposure of the transmitter electronics to the process environment

Quality made by
Endress+Hauser

ISO 9001

Endress+Hauser

The Power of Know How

ECOFIT™ System

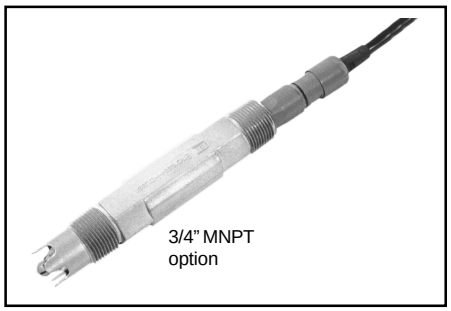
Designed for use with 12 mm electrodes, the ECOFIT™ is a process adapter that offers the ability to interface 12 mm electrodes into process connections currently using compact electrodes.

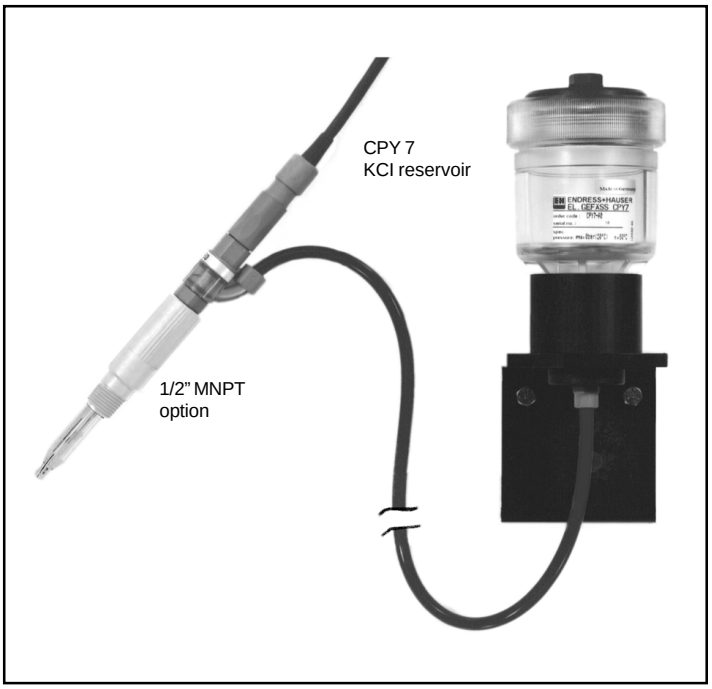
Additionally, when usd with the TOP 68 wiring connector, the ECOFIT™ provides a cost effective alternative to traditional compact electrodes. Traditional sensor designs require the replacement of the compact sensor body and cable with each sensor replacement.

These materials add cost to the sensor. With the ECOFIT™ and TOP 68, these materials are reused over and over, resulting in better price performance, not to mention the elimination of rewiring labor costs. As the chart at the bottom of the page shows, savings are significant. Add to this reductions in labor costs due to elimination of rewiring, and savings are substantial. The ECOFIT™ process adapter is available in 3/4" and 1/2" MNPT process connections. The ECOFIT™ is available in corrosion resistant PVDF (Kynar™) or 316 Ti stainless steel.

3/4" ECOFIT™ system with CPS 11 gel filled electrode

The 3/4" process adapter provides a protective guard for the glass electrode tip.





1/2" ECOFIT™ system with CPS 41 liquid filled electrode

Cost savings of typical pH measuring point with ECOFIT™

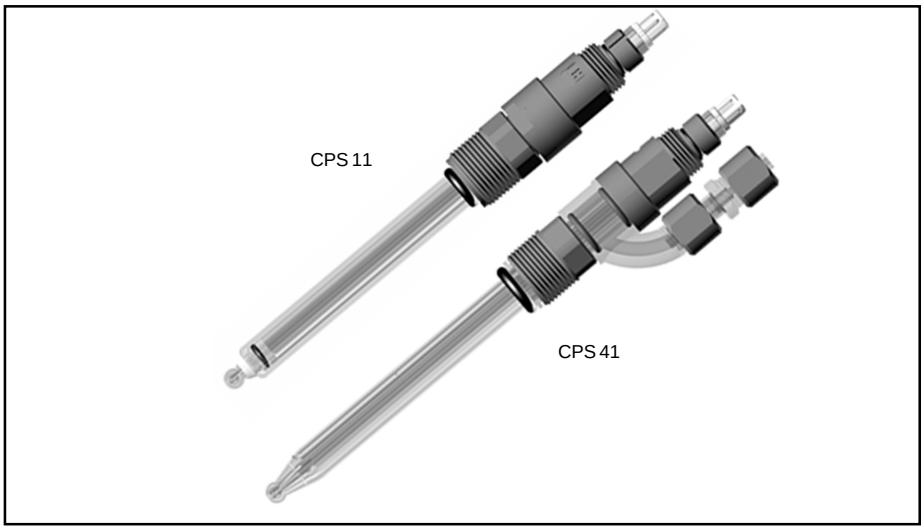
	Fixed cable electrode	**ECOFIT™**
Cost pH Electrode	$250	**$180**
Replacement Labor Cost	$50	**$15**
Replacement Cost per Year *	$1200	**$780**
Cost Savings with ECOFIT™ per year		**$420**

* Based on 4 replacements per year. Prices are estimated, assuming a burden labor rate of $50 per hour.

The ECOFIT™ system is used with Endress+Hauser's CPS family of pH sensors. With over 250,000 pH electrodes sold per year, Endress+Hauser is the No. 1 pH electrode supplier to the industrial market. The introduction of cutting edge manufacturing technologies such as automatic glass blowing and laser bonding machines, and a fully automated end test plus calibration robot, enables Endress+Hauser to deliver consistently high quality in large volume production.

The CPS 11 is a gel filled 12 mm pH electrode designed for most process applications. Sensor specifications and application information concerning the CPS 11 is available in Technical Information publication TI 028C/24/ae.

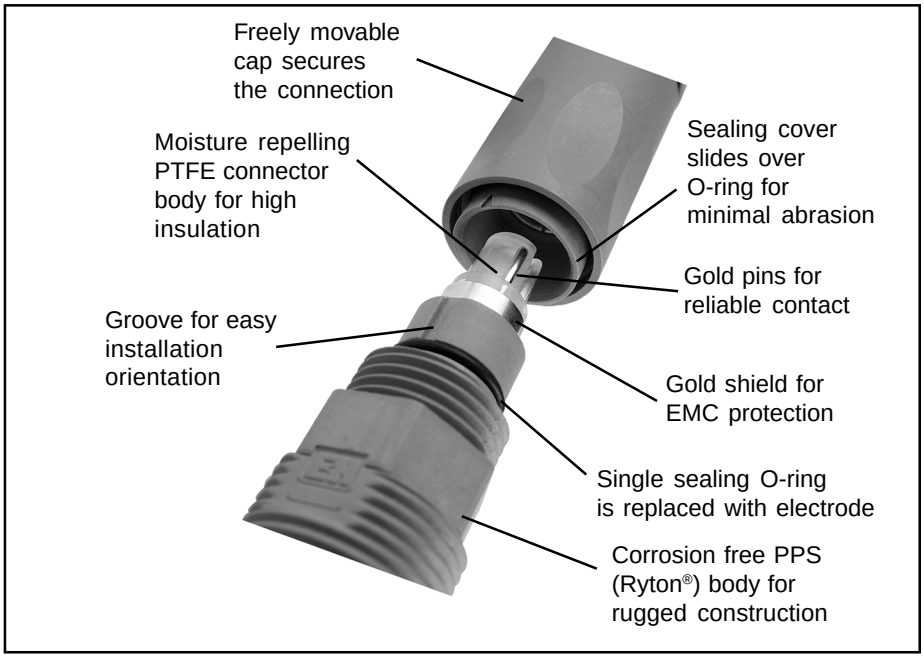
The CPS 41 is a liquid filled 12 mm pH electrode. An external reservoir supplies KCl reference electrolyte to the sensor. A flowing zirconium reference junction reduces the effects of potential poisons and ensures optimum sensor performance. Sensor specifications are available in Technical Information publication TI 079C/24/ae.



CPS 11 and CPS 41 pH sensors from Endress+Hauser

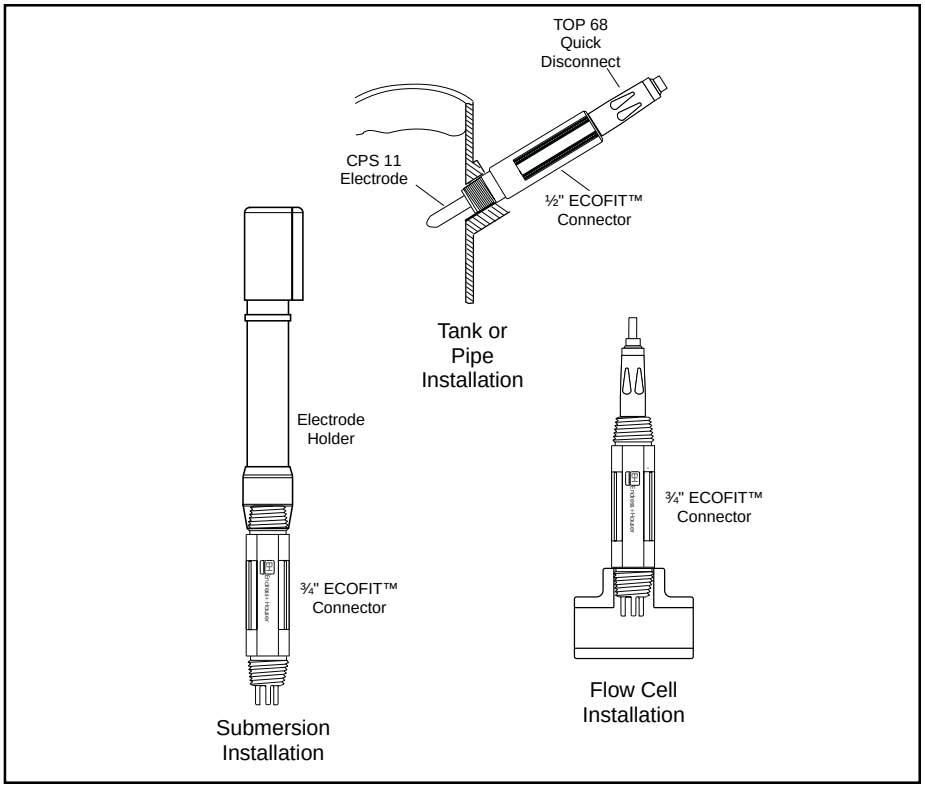
The new TOP 68 quick disconnect system, the first IP 68 (NEMA 6P) rated watertight system on the market, provides the customer with the convenience of a quick connector of the highest quality and reliability.

The integrated cable is a double shielded, sheathed cable optimized to reduce transient RF or EMC interferences.



TOP 68 Quick Disconnect Highlights

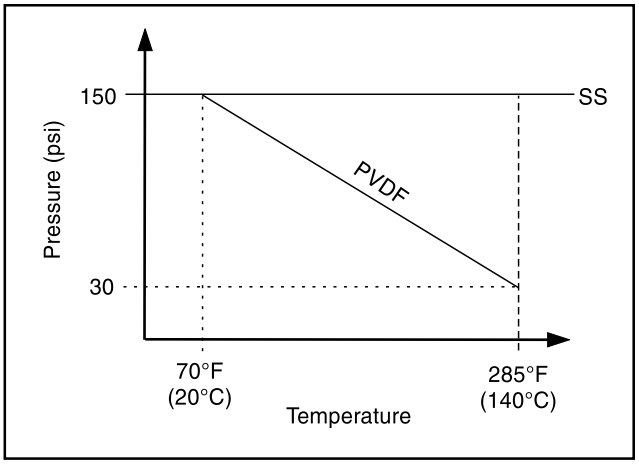
Installation



Typical installation of a compact electrode system

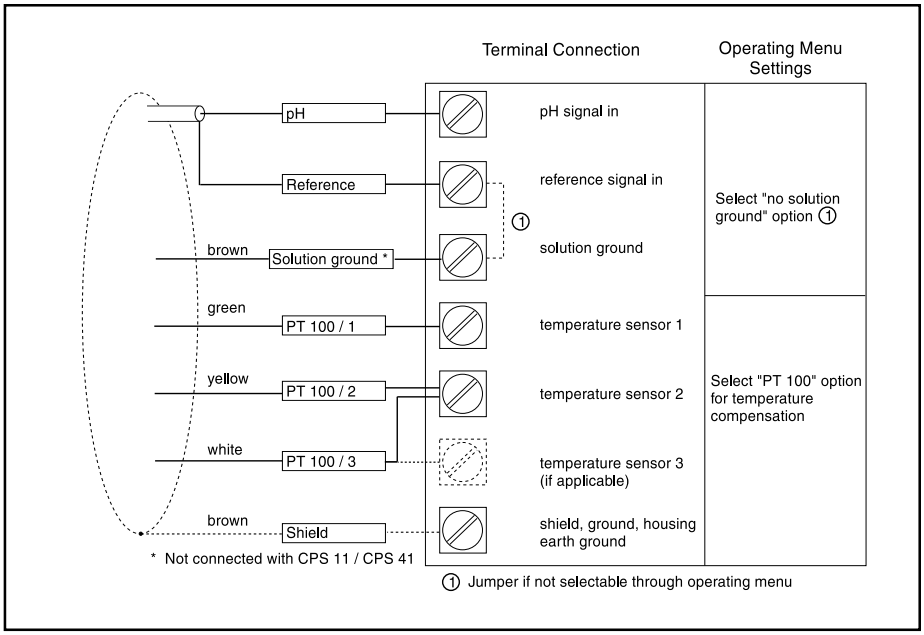
Technical Data

Process Connector	1/2” MNPT thread, PG 13.5 internal thread for connection of electrode, PVDF or 316 Ti SS 3/4” MNPT thread both ends, PG 13.5 internal thread for connection of electrode, PVDF or 316 Ti SS
Maximum Process Temperature	Dependent on process pressure and material: PVDF, 70°F at 150 psi or 285°F at 30 psi; 316 Ti SS, 285°F at 150 psi



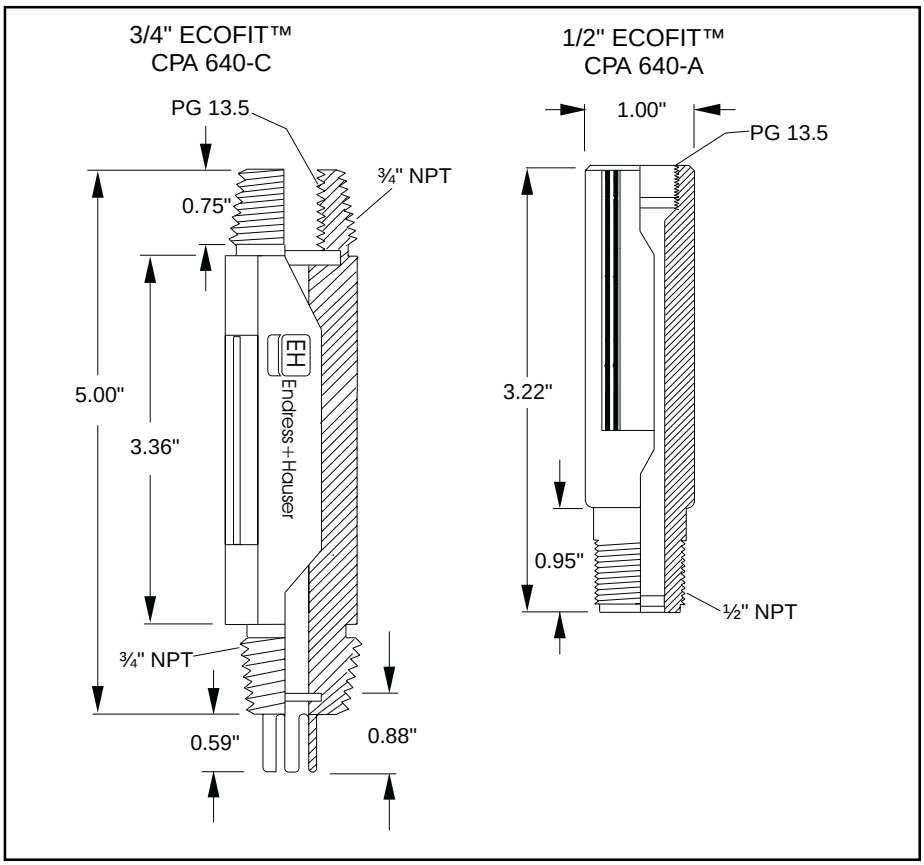
Temperature and pressure rating of ECOFIT™

Wiring



Connection of the TOP 68 sensor cable to pH Analyzers

Dimensions



ECOFIT™ Dimensions

Order Code ECOFIT™

ECOFIT™ CPA 640 Adapter Set

Adapter set for 12 mm electrodes and sensor cable with TOP 68 coupling.
For simple process connection in easy applications. Adapter with PG 13.5 internal thread and MNPT external threads.
CPS electrode (ESA / ESS option) has to be ordered separately.

ECOFIT™ CPA 640 - [1] [2] [3] [4]

1 Adapter version
- A 1/2" MNPT thread, PVDF maximum 150 psi (10 bar) at 70°F (20°C) or maximum 30 psi (2 bar) at 285°F (140°C)
- B 1/2" MNPT thread, 316 Ti SS maximum 150 psi (10 bar) at 285°F (140°C)
- C 3/4" MNPT thread, PVDF maximum 150 psi (10 bar) at 70°F (20°C) or maximum 30 psi (2 bar) at 285°F (140°C)
- D 3/4" MNPT thread, 316 Ti SS maximum 150 psi (10 bar) at 285°F (140°C)

2 Immersion depth
- 1 Immersion depth 1" (25 mm) with electrode protection guard
- 2 Immersion depth 1.5" (40 mm) without electrode protection guard
- 9 Special version

3 Sealing
- 1 Viton O-ring
- 9 Special version

4 Sensor cable
- 1 Without sensor cable
- 2 15 foot (5 m) sensor cable
- 3 30 foot (10 m) sensor cable
- 9 Special version

Supplementary Documentation

☐	CPS 11	Gel filled pH combination electrode	TI 028C
☐	CPS 41	Liquid filled pH combination electrode	TI 079C
☐	CPY 7	KCl reservoir for CPS 41 with filling tube	
☐	CPM 431	2-wire pH transmitter	TI 173C
☐	CPM 152	pH analyzer for industrial applications	TI 143C
☐	CPM 223/253	pH analyzer for water / waste water applications	TI 194C
☐	CPA 611	Low cost immersion holder with optional cleaning system	

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