

Supplementary Installation and Operating Instructions

Optiflux IFC300 Converter with HART Interface

- HART/Field Communicator 275/375
- Asset Management Solutions (AMS)
- Process Device Manager (PDM)
- Field Device Tool/Device Type Manager (FDT/DTM)



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1 General Information

The IFC 300 is a “four-wire” transmitter with 4...20mA current output and HART® capability. Dependent on jumper setting and wiring the current output can operate as active or passive output.

General characteristics of the IFC 300 HART® interface:

- Multidrop Mode is supported
- Burst Mode is not supported

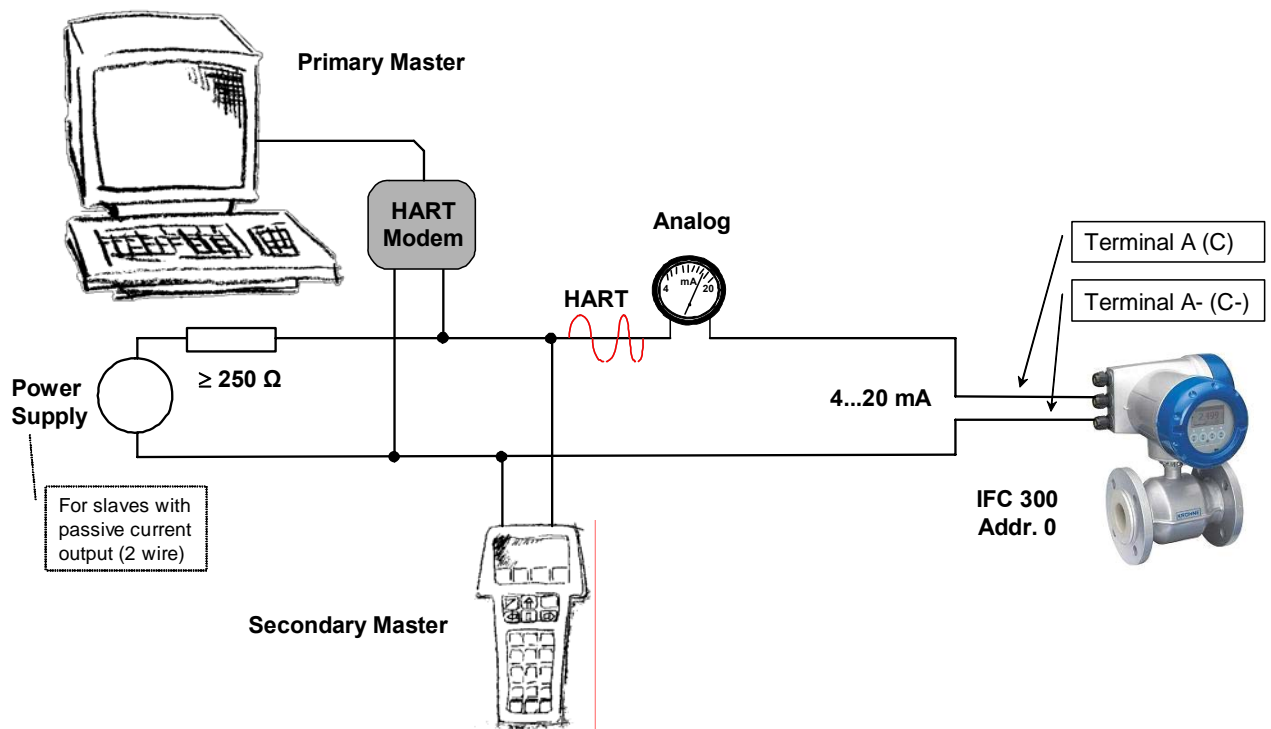
Electrical connection: Refer to section “Electrical connection: outputs and inputs” of the following manual:

- “Handbook IFC 300 signal converter” (KROHNE)

There are two ways of using the HART® communication:

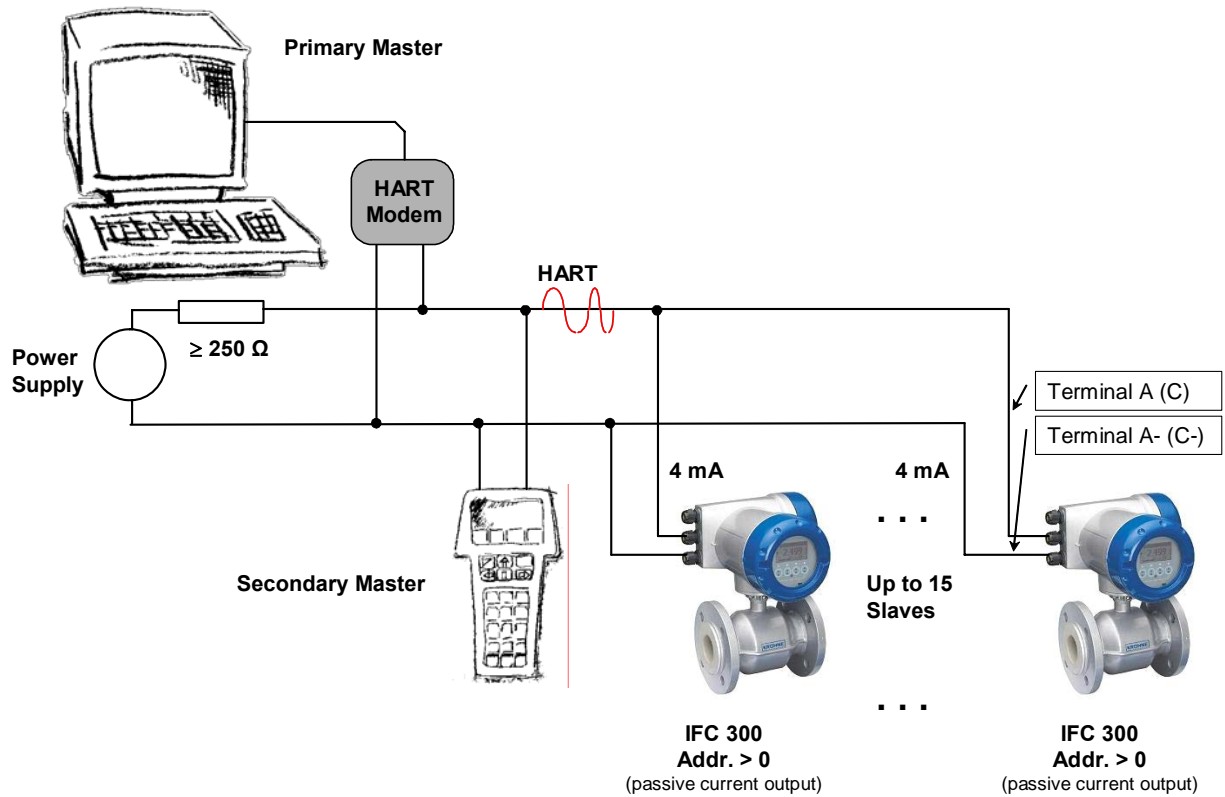
- a) As a point-to-point connection between the IFC 300 and the HART® master equipment. The instrument's current output may be active or passive.

Point-to-Point Analog/Digital Mode



b) As a multipoint connection (multidrop) with up to 15 devices (IFC 300 or other HART® equipment) in parallel. The instrument's current outputs must be passive.

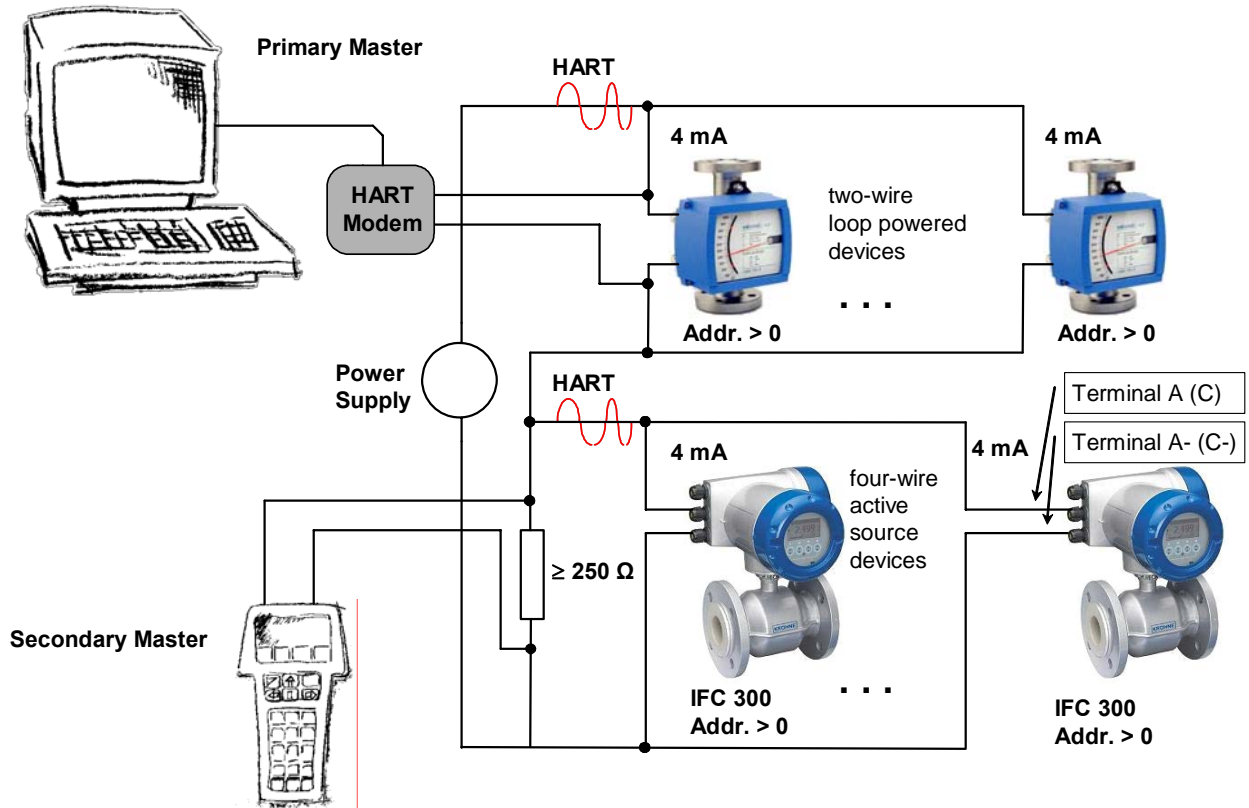
Multidrop Mode



In case that the IFC 300's current output shall work continuously active a 'third wire' is needed to properly connect it together with two-wire loop powered devices in the same network.

Multidrop Mode ('three-wire')

(Connecting two-wire and four-wire devices in the same network)



2 IDs and Revision numbers

The HART Device Descriptions described in this document have the following IDs and revision numbers:

Manufacturer ID:	69 (0x45)
Device Type:	227 (0xE3)
Device Revision:	1
DD Revision:	2
HART Universal Revision:	5
HC 275 OS Revision:	≥ 4.9
FC 375 System SW Rev.:	≥ 1.8
AMS Version:	≥ 6.0
PDM Version:	≥ 5.2
FDT Version:	≥ 1.2

For information about Transmitter Revisions and related Device Descriptions refer to the KROHNE HART Device List.

3 HART Communicator 275 (HC275), Field Communicator 375 (FC375)

3.1 Installation

The IFC 300 HART Device Description has to be installed on the HC275 and FC375 respectively. Otherwise the user will work with the instrument as a generic one thus losing opportunity for entire instrument control.

For installing DDs on the HC275 a 'HART Communicator Module Programmer' is needed (see details in the 'Module Programmer User's Guide').

For installing DDs on the FC375 the 'Easy Upgrade Programming Utility' is needed and the FC375 must have a System Card with 'Easy Upgrade' option (see details in the '375 Field Communicator User's Manual').

3.2 Operating

Refer to the IFC 300 Menu Tree HC275 / FC375 (Attachment A).

The IFC 300 operation via HC275 / FC375 is made quite close to the manual instrument control via keypad with the restriction that parameters of the device's "service" menu are not supported and simulation is possible only for current outputs. The online help of each parameter contains its function number as a reference to the device's local display and the "Handbook".

Parameter protection for custody transfer is the same as on the device's local display. Other specific protection mechanisms like "password quick setup" and "password setup" are not supported via HART.

The set of parameters of the HC275 "standard configuration" is only a partial set. However the HC275 "full configuration" contains a complete set of supported parameters. Both types of configurations can be transferred to AMS.

The FC375 always creates a "full" configuration for interaction with AMS. Still the FC375 considers only a partial parameter set (like the HC275 "standard configuration") when sending it to a device.

4 Asset Management Solutions (AMS)

4.1 Installation

If the IFC 300 Device Description is not already installed on the AMS System a so called *Installation Kit IFC 300 HART AMS* is needed (available as download from KROHNE 'Download Centre' on the internet or on floppy disk / CD-ROM from KROHNE).

For installing the DD with the Installation Kit refer to the "*AMS Intelligent Device Manager Books Online*" section "*Basic AMS Functionality / Device Configurations / Installing Device Types / Procedures / Install device types from media*". Please read also the "readme.txt", which is also contained in the Installation Kit.

4.2 Operating

Refer to the IFC 300 Menu Tree AMS (Attachment B).

Due to AMS requirements and conventions the IFC 300 operation differs to some extent from operation with HC275 / FC375 and via local keypad. Furthermore parameters of the device's "service" menu are not supported and simulation is possible only for current outputs. The online help of each parameter contains its function number as a reference to the device's local display and the "Handbook".

Parameter protection for custody transfer is the same as on the device's local display. Other specific protection mechanisms like "password quick setup" and "password setup" are not supported via HART.

5 Process Device Manager (PDM)

5.1 Installation

If the IFC 300 Device Description is not already installed on the PDM System a so called *Device Install IFC 300 HART PDM* is needed (available as download from KROHNE 'Download Centre' on the internet or on floppy disk / CD-ROM from KROHNE).

For installing the DD on PDM V 5.2 refer to the "*PDM Manual*" section 11.2: "*Device Install / Integrating Devices in SIMATIC PDM with 'Device Install'*".

For installing the DD on PDM V 6.0 refer to the "*PDM Manual*" section 13: "*Integrating Devices*".

Please read also the "readme.txt", which is also contained in the Device Install.

5.2 Operating

Refer to the IFC 300 Menu Tree PDM (Attachment C).

Due to PDM requirements and conventions the IFC 300 operation differs to some extent from operation with HC275 / FC375 and via local keypad. Furthermore parameters of the device's "service" menu are not supported and simulation is possible only for current outputs. The online help of each parameter contains its function number as a reference to the device's local display and the "Handbook".

Parameter protection for custody transfer is the same as on the device's local display. Other specific protection mechanisms like "password quick setup" and "password setup" are not supported via HART.

6 Field Device Tool Device Type Manager (FDT DTM)

6.1 Installation

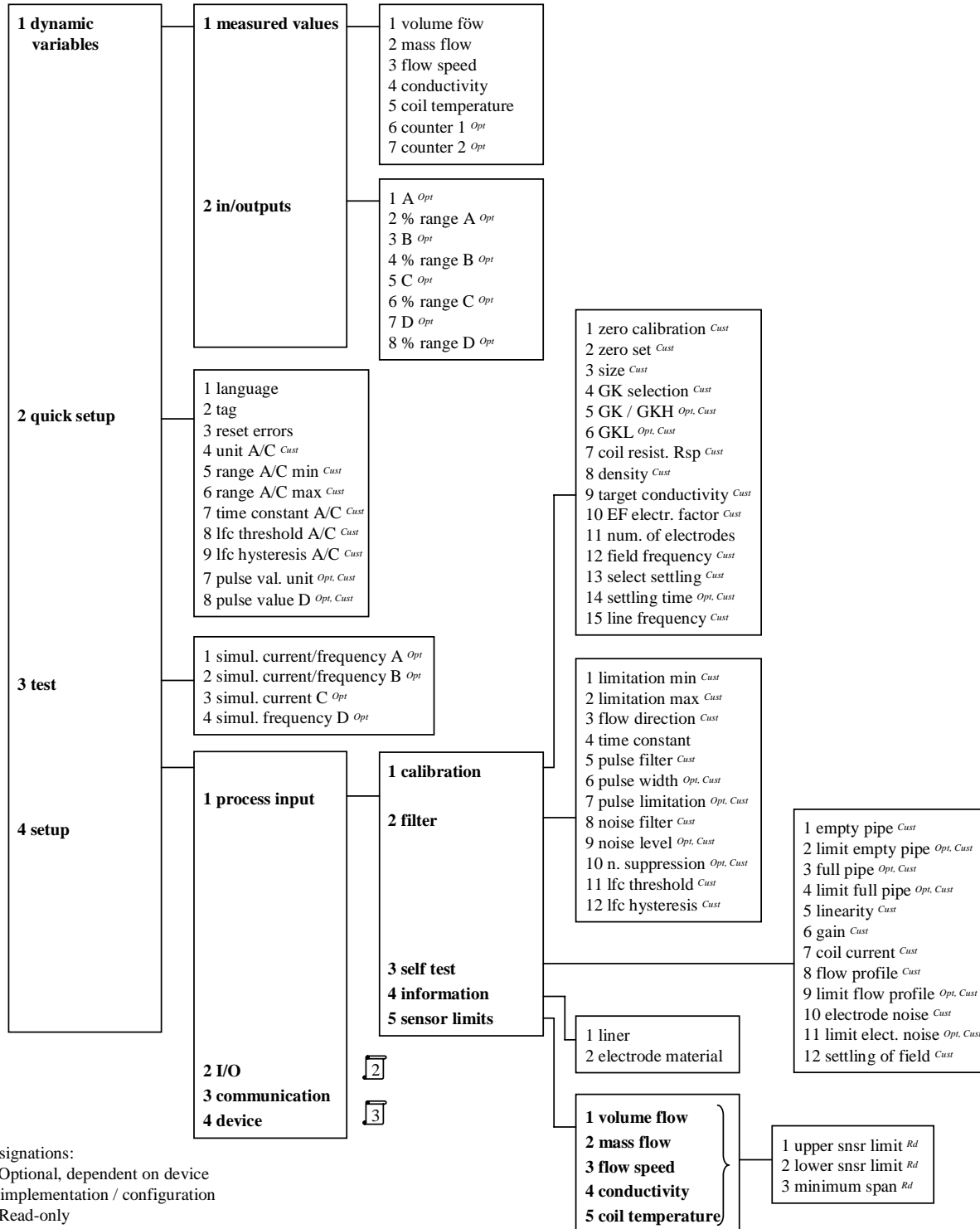
If the IFC 300 Device Type Manager is not already installed on the Field Device Tool container a *setup* is needed (available as download from KROHNE 'Download Centre' on the internet or on CD-ROM from KROHNE).

For installing the DTM with the setup refer to the setup's accompanying documentation.

6.2 Operating

The IFC 300 operation via DTM is made quite close to the manual instrument control via keypad. Refer to the device's local display and the "Handbook".

IFC 300 HART Menu Tree HC275 / FC375



Designations:

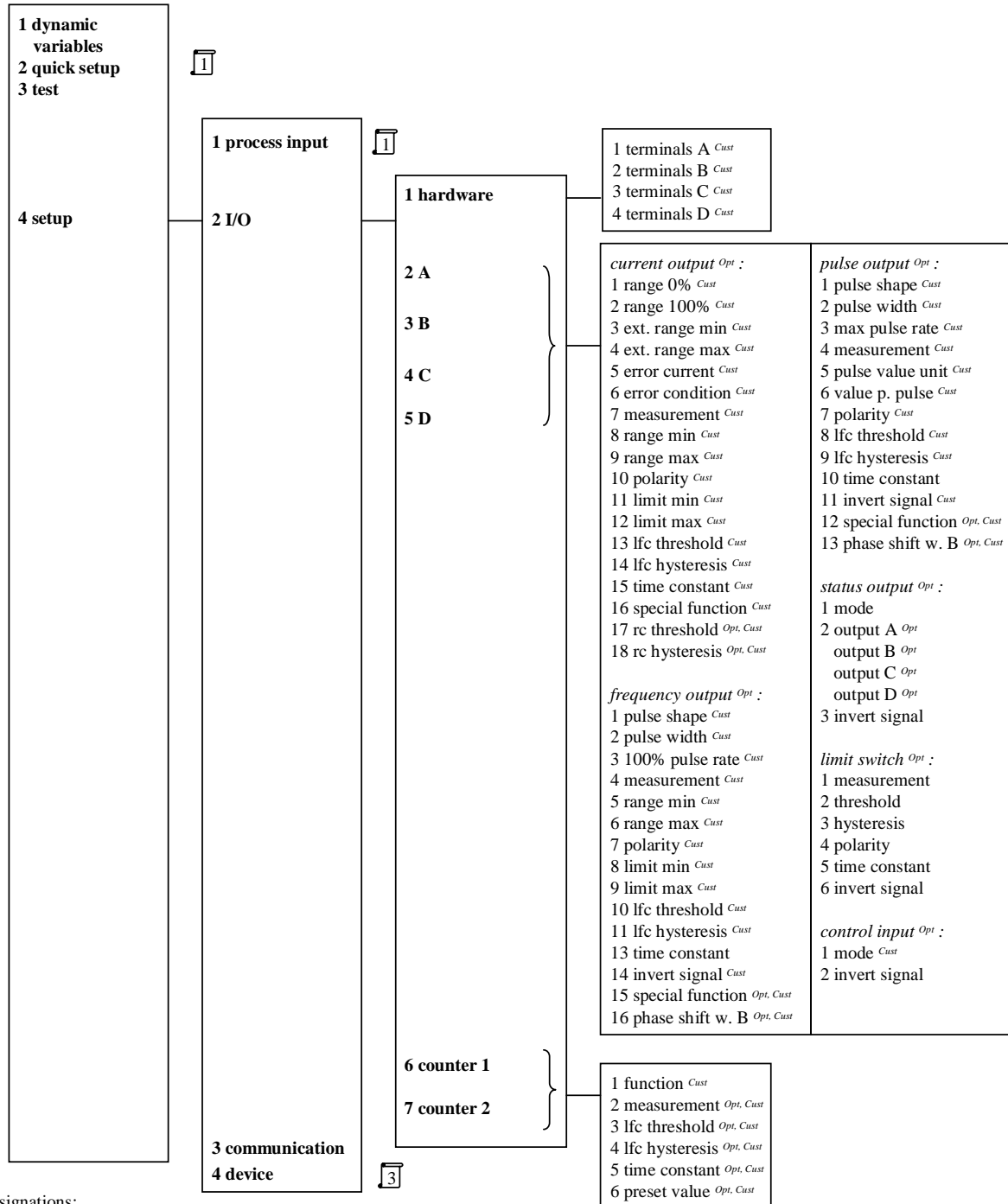
Opt Optional, dependent on device implementation / configuration

Rd Read-only

Cust Custody Lock protected

Loc Local HC275/FC375, affects only HC275/FC375 views

IFC 300 HART Menu Tree HC275 / FC375



Designations:

Opt Optional, dependent on device implementation / configuration

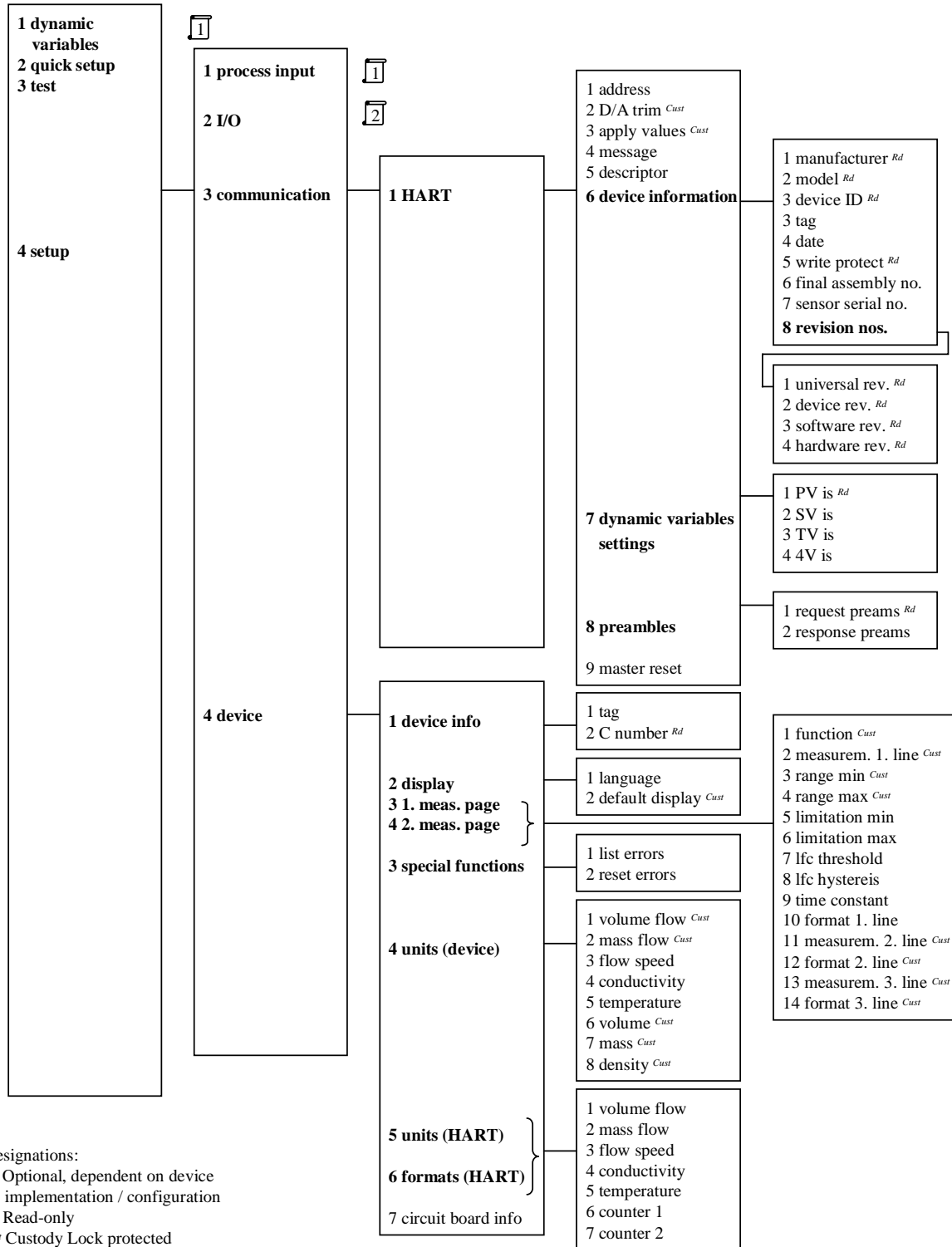
Rd Read-only

Cust Custody Lock protected

Loc Local HC275/FC375, affects only HC275/FC375 views

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IFC 300 HART Menu Tree HC275 / FC375



Designations:

Opt Optional, dependent on device implementation / configuration

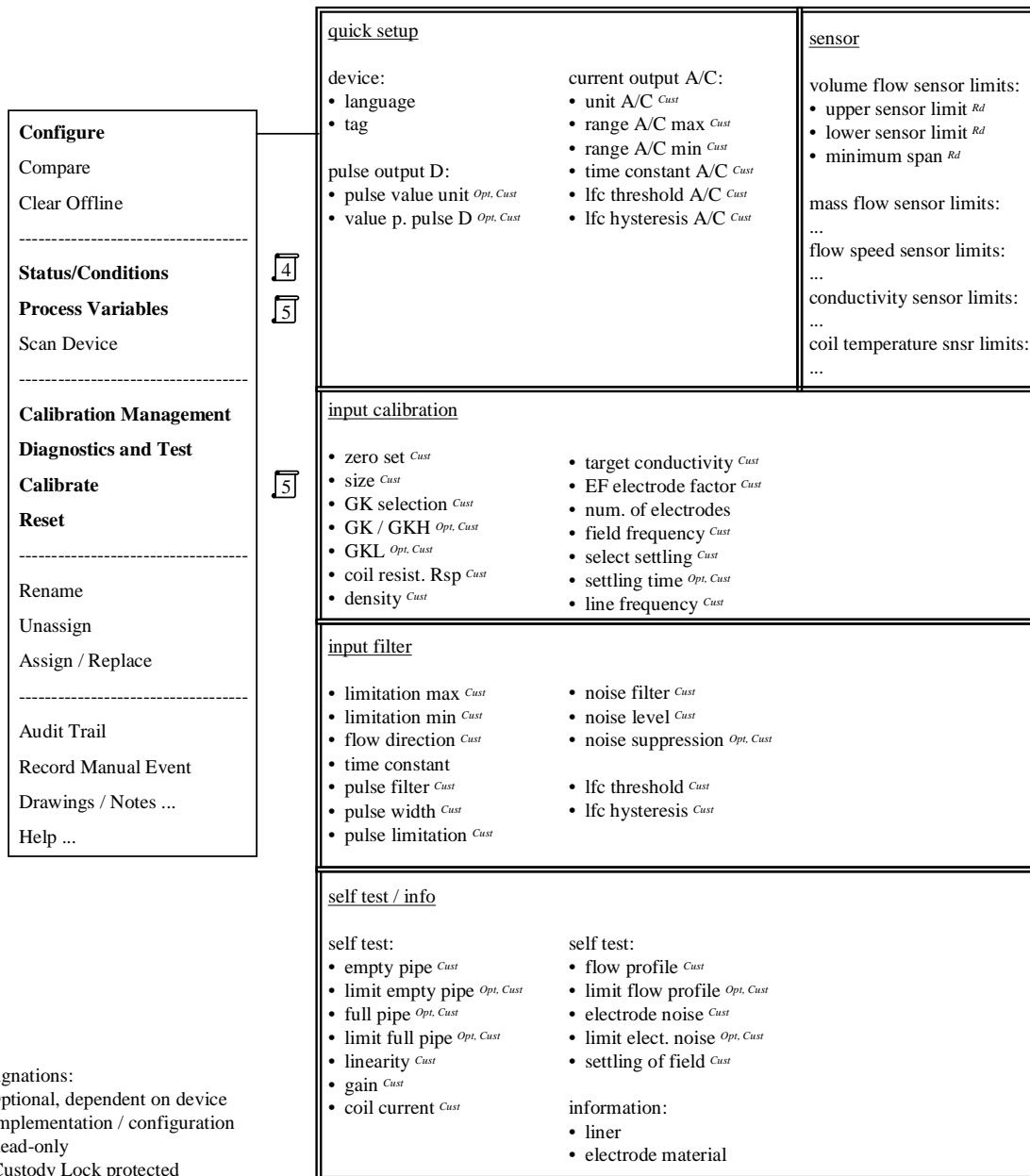
Rd Read-only

Cust Custody Lock protected

Loc Local HC275/FC375, affects only HC275/FC375 views

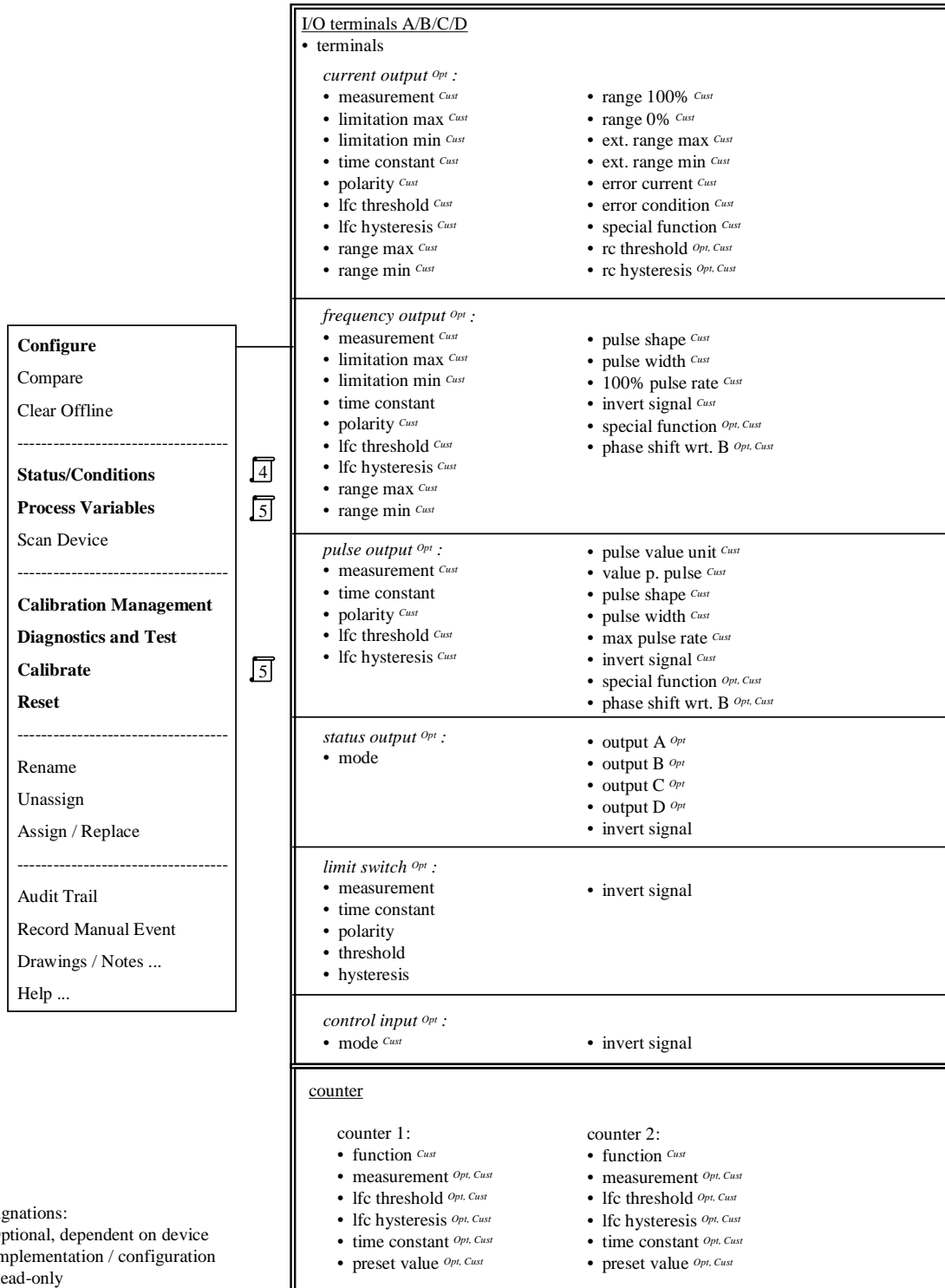
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 06/05

IFC 300 HART Menu Tree AMS



Designations:
Opt Optional, dependent on device implementation / configuration
Rd Read-only
Cust Custody Lock protected
Loc Local AMS, affects only AMS views

IFC 300 HART Menu Tree AMS



Designations:

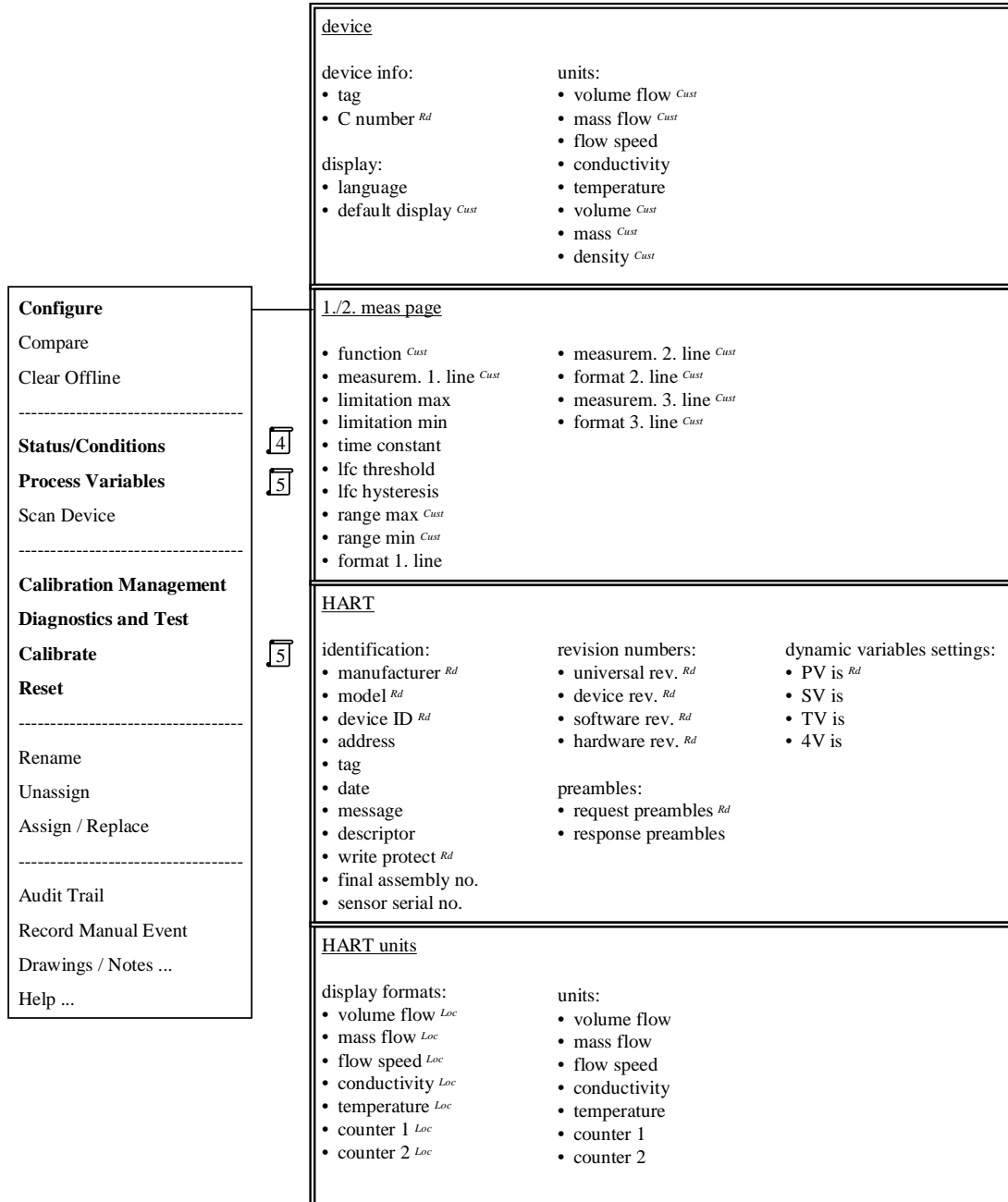
Opt Optional, dependent on device implementation / configuration

Rd Read-only

Cust Custody Lock protected

Loc Local AMS, affects only AMS views

IFC 300 HART Menu Tree AMS



Designations:

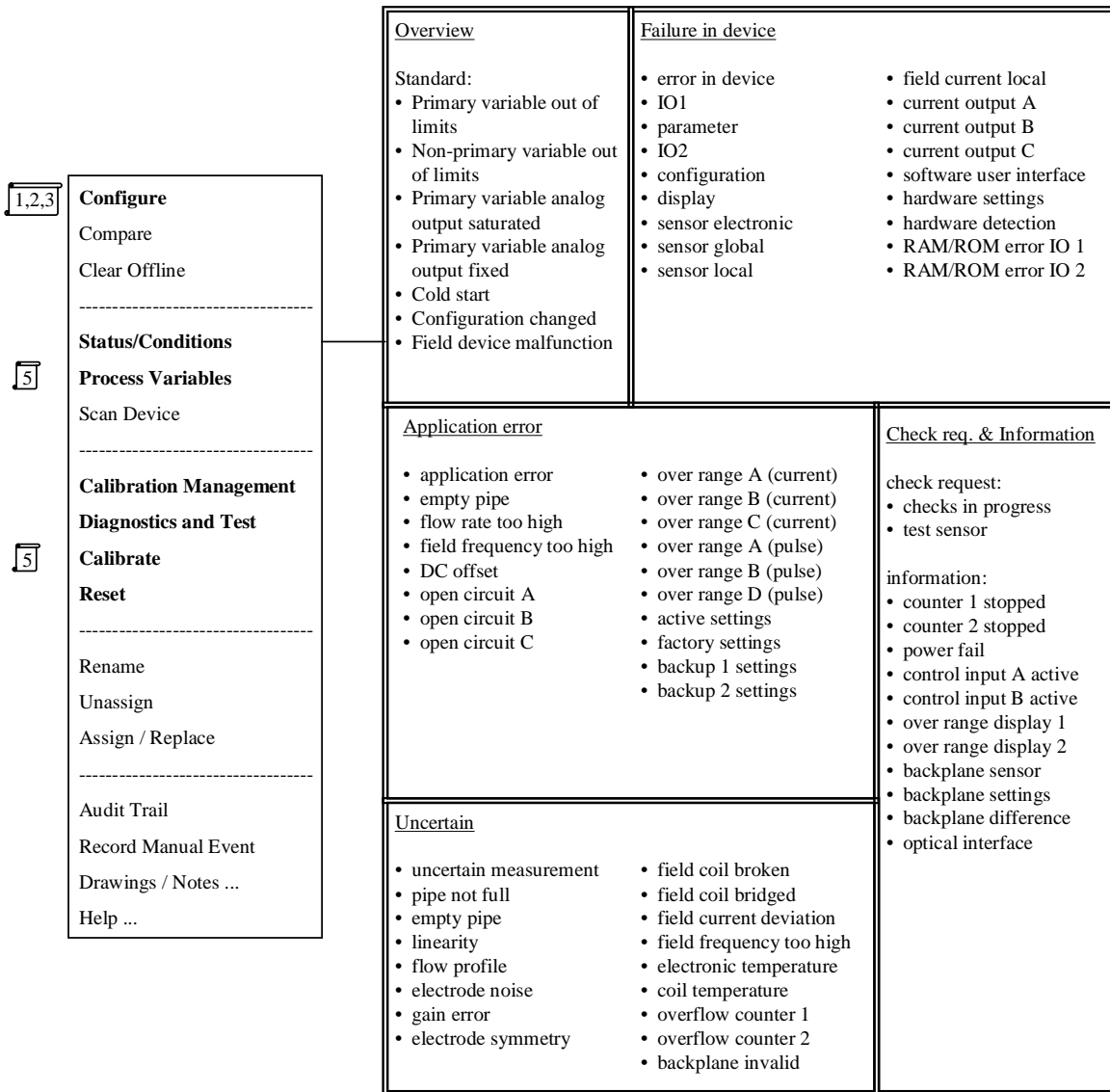
Opt Optional, dependent on device implementation / configuration

Rd Read-only

Cust Custody Lock protected

Loc Local AMS, affects only AMS views

IFC 300 HART Menu Tree AMS



Designations:

Opt Optional, dependent on device implementation / configuration

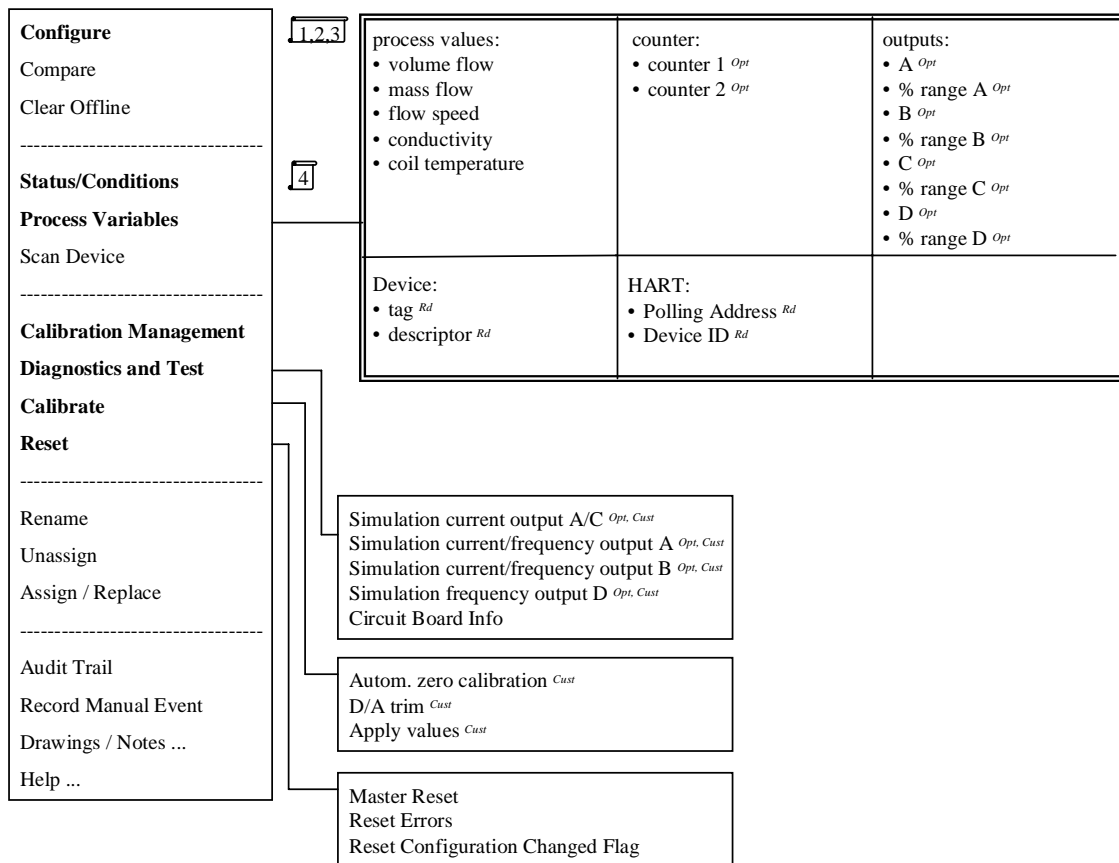
Rd Read-only

Cust Custody Lock protected

Loc Local AMS, affects only AMS views

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IFC 300 HART Menu Tree AMS



Designations:

Opt Optional, dependent on device implementation / configuration

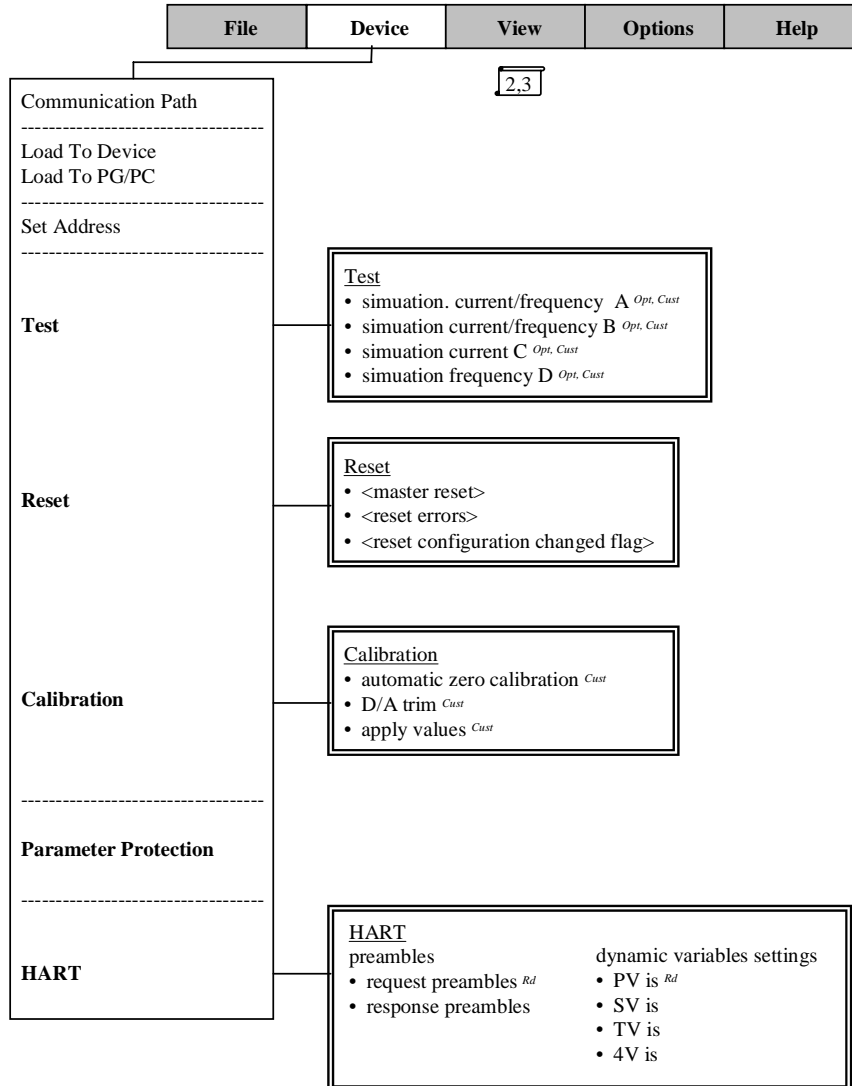
Rd Read-only

Cust Custody Lock protected

Loc Local AMS, affects only AMS views

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IFC 300 HART Menu Tree PDM
 Menu Bar



Designations:

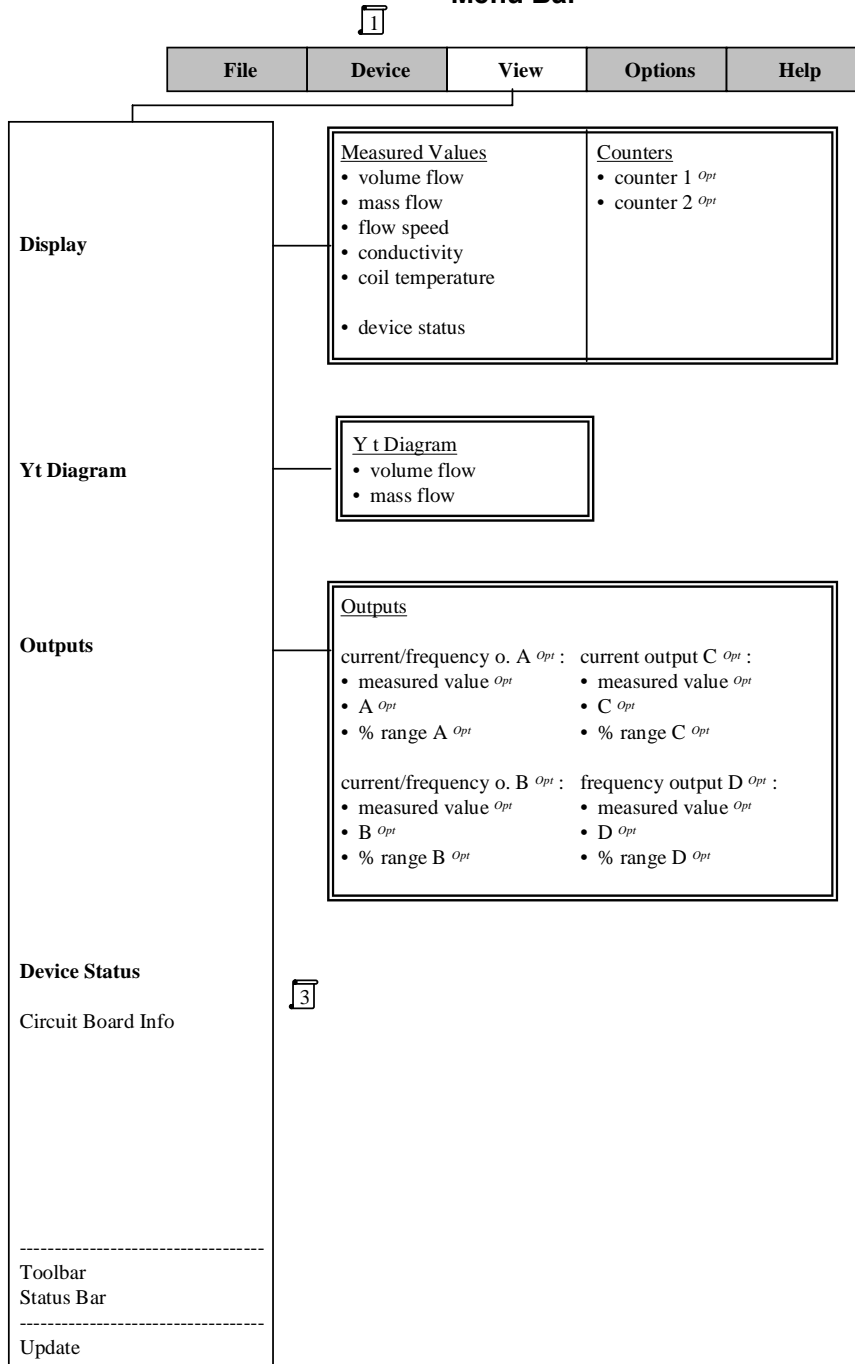
Opt Optional, dependent on device implementation / configuration

Rd Read-only

Cust Custody Lock protected

Loc Local PDM, affects only PDM views

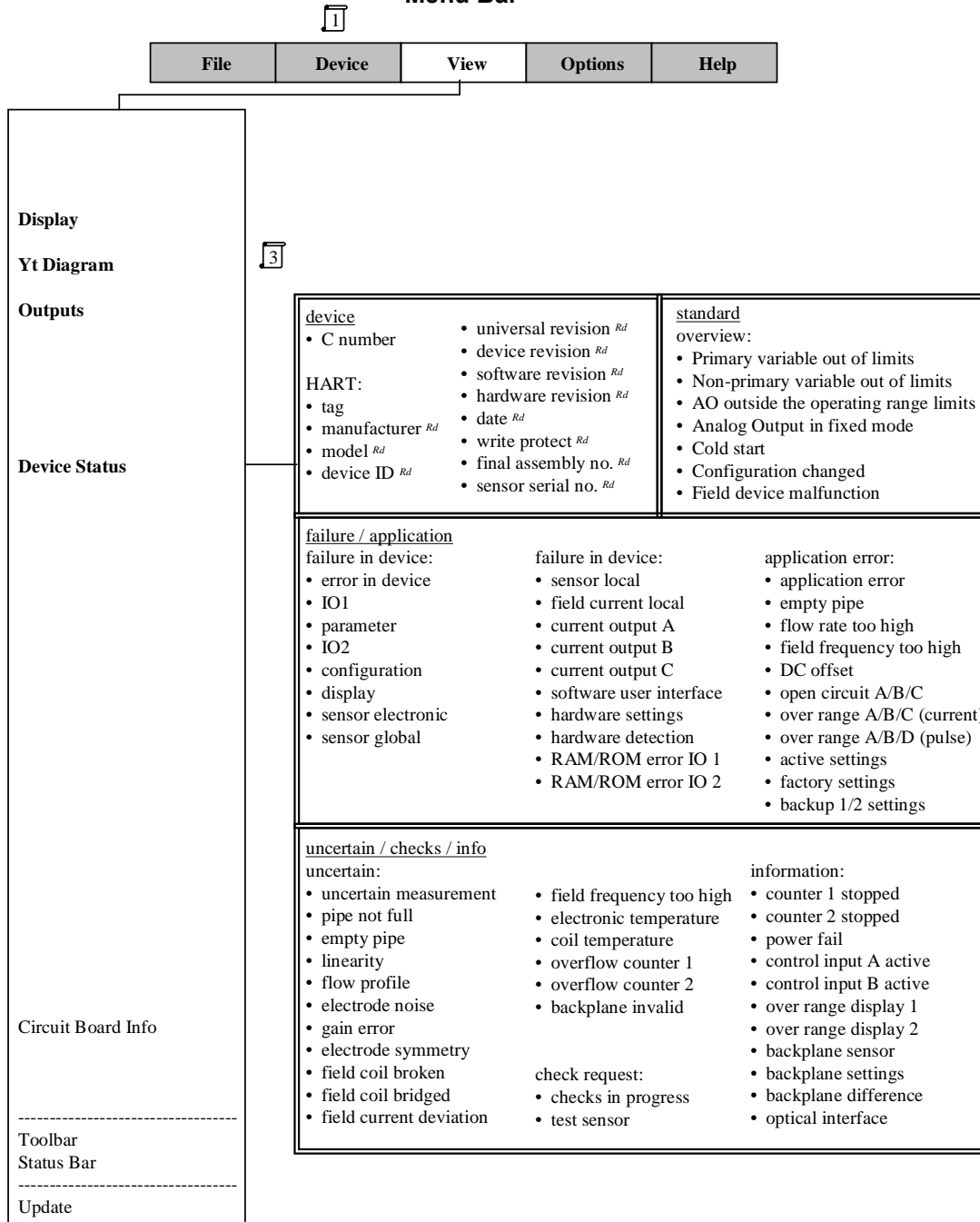
IFC 300 HART Menu Tree PDM
 Menu Bar



Designations:
Opt Optional, dependent on device implementation / configuration
Rd Read-only
Cust Custody Lock protected
Loc Local PDM, affects only PDM views

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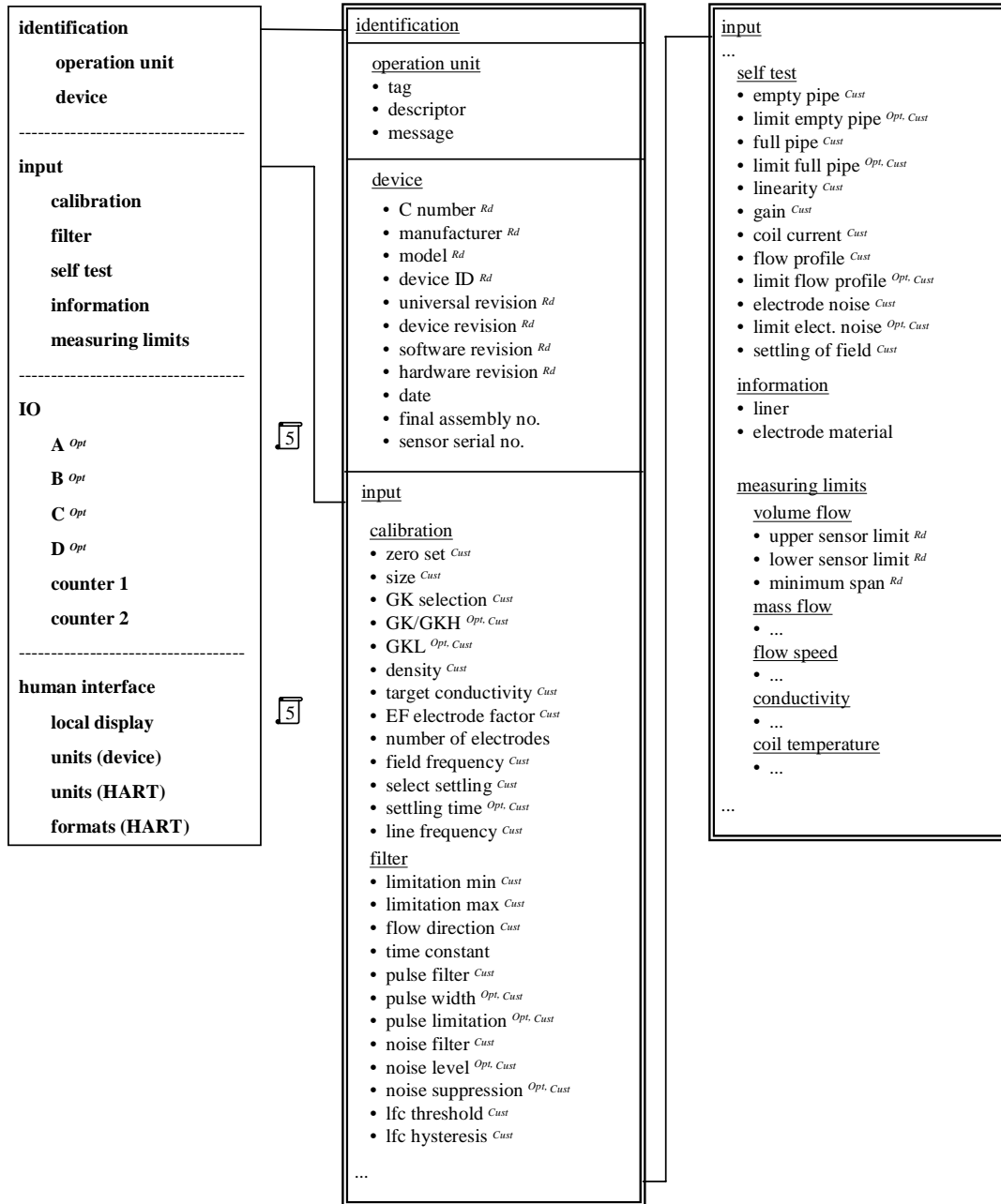
**IFC 300 HART Menu Tree PDM
Menu Bar**



Designations:
Opt Optional, dependent on device implementation / configuration
Rd Read-only
Cust Custody Lock protected
Loc Local PDM, affects only PDM views

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IFC 300 HART Menu Tree PDM
 Parameter Table



Designations:
Opt Optional, dependent on device implementation / configuration
Rd Read-only
Cust Custody Lock protected
Loc Local PDM, affects only PDM views

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IFC 300 HART Menu Tree PDM
Parameter Table

<p>identification</p> <p>operation unit device</p> <hr/> <p>input</p> <p>calibration filter self test information measuring limits</p> <hr/> <p>IO</p> <p>A <i>Opt</i> B <i>Opt</i> C <i>Opt</i> D <i>Opt</i></p> <p>counter 1 counter 2</p> <hr/> <p>human interface</p> <p>local display units (device) units (HART) formats (HART)</p>	<p>output</p> <ul style="list-style-type: none"> terminals A <i>Cust</i> terminals B <i>Cust</i> terminals C <i>Cust</i> terminals D <i>Cust</i> <p>A/B/C/D <i>Opt</i></p> <p>current output <i>Opt</i> :</p> <ul style="list-style-type: none"> range 0% <i>Cust</i> range 100% <i>Cust</i> ext. range min <i>Cust</i> ext. range max <i>Cust</i> error current <i>Cust</i> error condition <i>Cust</i> measurement <i>Cust</i> range min <i>Cust</i> range max <i>Cust</i> polarity <i>Cust</i> limit min <i>Cust</i> limit max <i>Cust</i> lfc threshold <i>Cust</i> lfc hysteresis <i>Cust</i> time constant <i>Cust</i> special function <i>Cust</i> rc threshold <i>Opt, Cust</i> rc hysteresis <i>Opt, Cust</i> <p>frequency output <i>Opt</i> :</p> <ul style="list-style-type: none"> pulse shape <i>Cust</i> pulse width <i>Cust</i> 100% pulse rate <i>Cust</i> measurement <i>Cust</i> range min <i>Cust</i> range max <i>Cust</i> polarity <i>Cust</i> limit min <i>Cust</i> limit max <i>Cust</i> lfc threshold <i>Cust</i> lfc hysteresis <i>Cust</i> time constant invert signal <i>Cust</i> special function <i>Opt, Cust</i> phase shift wrt. B <i>Opt, Cust</i> <p>pulse output <i>Opt</i> :</p> <ul style="list-style-type: none"> pulse shape <i>Cust</i> pulse width <i>Cust</i> max pulse rate <i>Cust</i> measurement <i>Cust</i> pulse value unit <i>Cust</i> value p. pulse <i>Cust</i> polarity <i>Cust</i> lfc threshold <i>Cust</i> lfc hysteresis <i>Cust</i> time constant invert signal <i>Cust</i> special function <i>Opt, Cust</i> phase shift wrt. B <i>Opt, Cust</i> <p>...</p>	<p>...</p> <p>status output <i>Opt</i> :</p> <ul style="list-style-type: none"> mode output A <i>Opt</i> output B <i>Opt</i> output C <i>Opt</i> output D <i>Opt</i> invert signal <p>limit switch <i>Opt</i> :</p> <ul style="list-style-type: none"> measurement threshold hysteresis polarity time constant invert signal <p>control input <i>Opt</i> :</p> <ul style="list-style-type: none"> mode <i>Cust</i> invert signal <hr/> <p>human interface</p> <p>local display</p> <ul style="list-style-type: none"> language default display <i>Cust</i> <p>units (device)</p> <ul style="list-style-type: none"> volume flow <i>Cust</i> mass flow <i>Cust</i> flow speed conductivity temperature volume <i>Cust</i> mass <i>Cust</i> density <i>Cust</i> <p>units (HART)</p> <ul style="list-style-type: none"> volume flow mass flow flow speed conductivity temperature counter 1 counter 2 <p>formats (HART)</p> <ul style="list-style-type: none"> volume flow <i>Loc</i> mass flow <i>Loc</i> flow speed <i>Loc</i> conductivity <i>Loc</i> temperature <i>Loc</i> counter 1 <i>Loc</i> counter 2 <i>Loc</i>
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Designations:
Opt Optional, dependent on device implementation / configuration
Rd Read-only
Cust Custody Lock protected
Loc Local PDM, affects only PDM views

KROHNE IFC 300 HA 45e30102 (5/5)
06.05