

Setting the Standard for Automation™



Instrument Specification Forms: An ISA20 Industry Implementation-

Developed for Use in Pharmaceutical
and Similar Industry Applications-
CD-ROM

Standards
Certification
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Presenter: Bret Fisk, P.E., Eli Lilly and Company

Bret A. Fisk, P.E. (Automation/Control Engineering) has been a significant contributor to Lilly's automation strategic initiatives since joining the company as a M.S. Electrical Engineering graduate of the University of Michigan in 1981. He continues to provide worldwide design consulting for Lilly's large capital projects. He is an active member of JETT, ISPE, and ISA.

The Lilly logo is the word "Lilly" written in a red, cursive script font.

Answers That Matter.

Form Index:



SPEC_FORM_NUMBER	SPEC_FORM_NAME
1101	Orifice Plate
1102	Annubar
1103	Rotameter
1104	Venturi Tube
1201	Temp. TW/TE/TT
2201	DP Transmitter
2202	Pressure Transmitter
2401	DP Instrument Level
2402	Displacer Level Transmitter
2405	Level Instrument Capacitance
2406	Nuclear Instrument
2407	Ultrasonic/Radar Transmitter
2501	Coriolis Mass Flowmeter
2502	Magnetic Flowmeter
2503	Thermal Mass Flowmeter
2504	Turbine Flowmeter
2505	DP Transmitter (flow)
2506	Positive Displacement Flowmeter
2507	Vortex Flowmeter
2508	Ultrasonic Flowmeter
2509	Thermal Mass Flow controller
2601	PH Transmitter
2603	Conductivity/Resistivity Trans
2605	Analyzer - Gas Concentration
2607	LEL Analyzer
2608	Humidity Analyzer
2609	Optical Density Analyzer
2610	TOC Analyzer
2611	Turbidity Analyzer
2614	Dissolved CO2 Analyzer
2615	Dissolved O2 Analyzer
2620	Analytical Measurement - Misc

SPEC_FORM_NUMBER	SPEC_FORM_NAME (continued)
2701	Weigh Systems, Load Cell
2702	Weigh Bench/Floor Scales
2703	Weigh Precision Scales
4101	Temperature Switch
4102	Pressure Switch
4104	Flow Switch
4105	Proximity for Bubble Trap
4107	Level Switch
4111	Level Switch Float Type
4112	General Limit Switch
5101	Bi-metallic Temp. Indicator
5201	Pressure Gauge
5701	Level Gauge
5702	Sight Glass
7101	Temperature Regulator
7102	Pressure/Flow Regulator
7103	Blanketing Regulator
7201	Ball Valve
7202	4 Way Valve
7203	3 Way Valve
7204	Diaphragm Valve
7205	Butterfly Valve (On/Off)
7206	3 Way Diverter Valve
7207	Sanitary Multiport Valve
7301	Globe Valve
7302	Sanitary Control Valve
7303	Butterfly Control Valve
7304	V-Ball Valve
7401	Rupture Disk
7402	Conservation Vent
7403	Pressure Safety Valve
7404	Flame Arrestor

Form Index: (continued)

SPEC_FORM_NUMBER	SPEC_FORM_NAME (continued)
7601	Solenoid Valve
7602	Solenoid Valve (in-line)
9101	Signal Conv./Transmitter
9301	Fieldbus Page
9302	Receiver/Controller/Recorder
9303	Electronic Indicator
9304	Test Support Equipment
9305	Speed Transmitter
9306	Power Supply

Publication Features

- Implementation of ISA20 tailored for the pharma industry (& useful for other industries)
- Single or “Multi-Item Specifications”
(1 spec for a list of instruments)
- Additional pick-lists for efficient data entry & data integrity
- 73 Forms in Excel, but could be implemented in other databases (eg. ACCESS or SmartPlant® Instrumentation)
- Blank fields in each section for the flexibility
- Footer for revision & project management data

How Publication was Developed

Several Months of Weekly Webex working sessions with:

- Eli Lilly & Company
 - Bret A. Fisk, P.E.
 - Vince P. Salupo, P.E.
 - Wm. Glenn Blackwelder, P.E.
- Intergraph Corporation
 - Alex Koifman
 - Ron Williams
- Jacobs Engineering
 - Brett Boyd
 - Michael A. Gordon, P.E.
 - Craig Linhardt, P.E.
- Process Automation Sourcing Solutions, Indianapolis, IN
- Fluor Corporation, SC, Control Systems Department

As with ISA-20, use of these forms by users and manufacturers offers the following advantages:

- Assists in preparation of complete specifications by listing and providing space for all principal descriptive options
- Promotes uniform terminology across the pharmaceutical industry and similar applications, streamlining:
 - interdepartmental and cross-functional communications
 - communications between companies
- Promotes uniform application development of instrument design tools.
- Facilitates quoting, purchasing, receiving, accounting and ordering procedures by uniform display of information
- Provides a useful permanent record and means for checking the installation
- Improves efficiency from the initial concept to the final installation

Discussion:

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Show sample form in publication