

HubBroker iPaaS ANSI X12 4010 850

Purchase Order specification

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1. Introduction

The EDI (Electronic Data Interchange) Standard (X12), version (4010) and Transaction Set (850) is a globally standardized purchase order format developed by ANSI (American National Standards Institute), a private not-for-profit organization, that oversees the creation, promulgation and use of thousands of norms and guidelines that directly impact businesses.

Because this format is most commonly used in the United States, the HubBroker iPaaS has implemented support in sending Purchase Orders to North American suppliers via e-mail and FTP Polling. This format support will allow suppliers to receive EDI orders from the HubBroker iPaaS without implementing mappings from XML to their internal EDI format.

Like any other electronic Purchase Order document, the EDI X12 PO document contains information regarding the product/services and the quantities requested, shipping details, payment terms, shipping details, etc.

2. Purpose

The purpose of this document is to detail on the meaning and the information contained in the segments of the EDI X12 format as sent by the HubBroker iPaaS. Find below explained the typical structure used by the HubBroker iPaaS when communicating the ANSI X12 850 transaction set. More information regarding ANSI X12-4010 transaction sets can be found at <http://www.disa.org>. Please note publications are available at a cost.

3. HubBroker iPaaS EDI X12 850 Purchase Order

3.1 General information

ANSI X.12 Version

HubBroker iPaaS is using ANSI X.12, Version 004010.

Below is a structure of the segments used by HubBroker iPaaS when sending X12 Purchase Orders. The structure is completed with explanations for each segments' elements.

3.2 ISA - Interchange Control Header

This segment starts and identifies an interchange of one or more groups or loops and their related segments. This segment is ended by the IEA segment. Only one ISA-IEA control loop may be used per transmission.

Element	Meaning	Length (min/max)	Required?
ISA01	Authorization Information Qualifier Default: "00" = "No Authorization Information Present"	2/2	Yes
ISA02	Authorization Information Default: empty	10/10	Yes
ISA03	Security Information Qualifier Default: "00" = "No Security Information Present"	2/2	Yes
ISA04	Security Information Default: empty	10/10	Yes
ISA05	Interchange ID Qualifier Default: "ZZ" = "Mutually Defined"	2/2	Yes
ISA06	Interchange Sender ID	15/15	Yes
ISA07	Interchange ID Qualifier Default: "01" = "DUNS number"	2/2	Yes
ISA08	Interchange Receiver ID	15/15	Yes
ISA09	Interchange Date - YYMMDD	6/6	Yes
ISA10	Interchange Time - HHMM	4/4	Yes
ISA11	Repetition Separator - provides the delimiter used to separate repeated occurrences of a simple data element or a composite data structure; this value must be different than the data element separator, component element separator, and the segment terminator.	1/1	Yes
ISA12	Interchange Control Version Number Code Default: "00401"	5/5	Yes
ISA13	Interchange Control Number - A control number assigned by the interchange sender.	9/9	Yes
ISA15	Acknowledgment Requested Default: "0"	1/1	Yes
ISA16	Test Indicator "T" = Test "P" = Production	1/1	Yes
ISA17	Sub-element Separator Default: ":"	1/1	Yes

Last character (position 106)	Segment terminator Default: "~"	1/1	Yes
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Example: ISA*00* *00*
 *01*123456789*ZZ*SupplierID*130419*1243*U*00401*102431912*0*T*::~~

3.3 GS - Functional Group Header

The GS segment indicates the beginning of a functional group and provides control information. The GS segment is ended by the GE segment. One or more GS-GE control loops may be used per transmission by the sender, but only one is mandatory.

Element	Meaning	Length (min/max)	Required?
GS01	Functional Group Header Code - Same as the Group Type of the included Transaction Sets	2/2	Yes
GS02	Application Sender's Code	24/24	Yes
GS03	Application Receiver's Code	24/24	Yes
GS04	Date - YYMMDD, or CCYYMMDD as of 4010	8/8	Yes
GS05	Time - HHMM	4/4	Yes
GS06	Group Control Number - Like the ISA control number, is used for audit and to detect duplicates, missing, or out of sequence groups. Most importantly, the 997 Functional Acknowledgement, which acts as a return receipt for the group, references the group control number. May take any numeric value so long as there are no duplicates in the interchange, but is usually incremented by one for each group of this type sent to the same trading partner.	9/9	Yes
GS07	Responsible Agency Code - X for X12 or T for TDCC Default: "X"	1/1	Yes
GS08	Version/Release/Industry Identifier Code - The first six characters specify the X12 version and release, while any of the last six may be used to indicate an Industry standard or Implementation Convention reference	5/5	Yes

Example:
 GS*PO*123456789*SupplierID*20130419*1243*266410610*X*004010~

3.4 ST - Transaction Set Header

This segment indicates the start of a transaction set and assigns a control number. It is ended by the SE segment. From HubBroker iPaaS suppliers will always receive transaction sets containing max. one single purchase order.

Element	Meaning	Length (min/max)	Required?
ST01	Transaction Set Identifier Code - A three digit numeric code identifying the Transaction Set type, from the Transaction Set table. Default: "850" = "Order".	3/3	Yes
ST02	Transaction Set Control Number Default: "0001"	4/9	Yes

Example: ST*850*0001~

3.4.1 Purchase Order Transaction - Header

BEG - Beginning Segment for Purchase Order

Segment that indicates the beginning of the Purchase Order Transaction Set and contains Order type and purpose, order issue date and eventually a contract number.

Element	Meaning	Length (min/max)	Required?
BEG01	Code identifying purpose of transaction set. Default: "00" = "Original"	2/2	Yes
BEG02	Code specifying the type of Purchase Order Default: "SA" = "Stand-Alone-Order"	2/2	Yes
BEG03	Identifying number for Purchase Order assigned by the buyer	1/22	Yes
BEG05	Date in format "CCYYMMDD"	8/8	Yes
BEG06	Contract number	1/30	No
BEG09	Code identifying a contract type	2/2	No

Example: BEG*00*SA*PO_123456**20101123~

CUR - Currency

This segment is used to specify the currency that applies to the whole order.

Element	Meaning	Length (min/max)	Required?
CUR01	Code identifying an organizational entity, a physical location, property or an individual.	2/3	Yes

	Default: "BY" = "Buyer"		
CUR02	Standard ISO currency code Examples: "USD", "EUR"	3/3	Yes

Example: CUR*BY*USD

REF – Order Reference Information

The REF segment is used to specify identifying information/numbers.

Element	Meaning	Length (min/max)	Required?
REF01	Reference Identification Qualifier. Code qualifying the Reference Number. Examples: "PO" = "Purchase Order Number", "Q1" = "Quote Number" and "11" = Account Number	2/3	Yes
REF02	Reference Identification. Reference number or identification number as specified by the Reference Number Qualifier.	1/30	Yes

Example: REF*PO*PO_123456~
REF*Q1*QuoteNumber123~
REF*11*AccountCode123~

DTM - Segment for particular Date/Time information

This segment is used to specify dates and times for the entire order such as order validity dates.

Element	Meaning	Length (min/max)	Required?
DTM01	Code specifying type of date or time, or both date and time Example: "373" = Order Start" and "374" = "Order End" to express the validity period of the entire order.	3/3	Yes
DTM02	Date in format "CCYYMMDD"	8/8	Yes
DTM03	Time expressed as follows: HHMM, or HHMMSS, HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59),	4/8	No

	S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)		
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Example: DTM*373*20130101*00000000~

DTM*374*20130630*00000000~

CTB – Restrictions/Conditions - Order header note

This segment is used to specify restrictions/conditions (such as shipping, ordering).

Element	Meaning	Length (min/max)	Required?
CTB01	Restrictions/Conditions Qualifier Default: "OR" = "Ordering"	2/2	Yes
CTB02	Description	1/80	Yes

Example: CTB*OR*OrderHeader freetext note...

N9 – Extended Reference Identification

This segment is used to transmit identifying information as specified by the Reference Identification Qualifier. This is usually the account code which is an HubBroker iPaaS specific identifier referencing a unique relationship between a buyer and a supplier. This identifier can also be found in the REF segment.

Element	Meaning	Length (min/max)	Required?
N901	Code identifying the Reference Identification. Example: "11" = "Account Number"	2/3	Yes
N902	Reference identification	1/20	Yes

Example: N9*11*AccountCode123

N9 – Extended Reference Identification: Attachments

In the following example this segment is used to transmit identifying information as specified by the Reference Identification Qualifier. This can be an account code or a link to attachments that can be retrieved online from e.g. the HubBroker iPaaS Attachment Service.

Element	Meaning	Length (min/max)	Required?
N901	Code identifying the Reference Identification. Example: "FI" = "File Identifier"	2/3	Yes
N902	Reference identification.	1/20	Yes

	Example: "AttachmentPurpose", "AttachmentLocation" or "FileName"		
N903	Free-form Description	1/30	Yes

Example: See below

MSG - Message Text

This segment is used to provide free-text information. As reference to the N9 segment above it provides file name or location (URL) of the attachment.

Element	Meaning	Length (min/max)	Required?
MSG01	Free-Form Message Text. Here used to specify the attachment filename and the URI from where it can be downloaded.	1/264	Yes

Example:

```

N9*FI*AttachmentPurpose*Attachment~
N9*FI*FileName*~
MSG*HubBroker                                     iPaaS-
On_demand_platform_Information_Security_Policy_Rev_A_110120.pdf~
N9*FI*AttachmentLocation~
MSG*http+//192.168.181.26/nova/o/doc/09ad3be0-a501-45bd-b5ab-
05e35d06bfa5~

```

N1 - Name Information

This segment is used to specify information about the buyer party, seller party or ship-to party. It identifies a party by type of organization, name, and code.

Element	Meaning	Length (min/max)	Required?
N101	Entity Identifier Code. Example: "BY" = "Buying Party", "SE" = "Seller", "ST" = "Ship to". "BT" = "Bill to"	2/3	Yes
N102	Name of Entity	1/60	No
N103	Identification Code Qualifier. Code designating the system/method of code structure used for Identification Code Default: "92" = "Assigned by Buyer or Buyer's Agent"	1/2	No
N104	Identification Code. Code identifying a party or other code. Usually an internal ID of the party in the buyer's system.	2/80	No

Example: N1*BY*BuyerName1*92*1619~

N2 - Additional Name Information

This segment is be used only to specify additional name information. It is used if the information contained in N1 regarding the name of the entity is not enough.

Element	Meaning	Length (min/max)	Required?
N201	Free-form name	1/60	Yes
N202	Free-form name	1/60	No

Example: N2*BuyerName2~

N3 - Address Information

This segment is used to provide the street address information of the party named in the N1 segment.

Element	Meaning	Length (min/max)	Required?
N301	Address Information	1/55	Yes
N302	Address Information	1/55	No

Example: N3*BuyerStreet 12~

N4 - Geographic Location

This segment is used to provide address information like city, state and zip code of the party named in the N1 segment.

Element	Meaning	Length (min/max)	Required?
N401	City Name	2/30	No
N402	State or Province Code	2/2	No
N403	Postal Code	3/15	No
N404	Country Code	2/3	No

Example: N4*BuyerCity*NY*12345*US~

NX2 - Location ID Component

Element	Meaning	Length (min/max)	Required?
NX201	Address Component Qualifier Example: "05" = "P.O. Box Number"	2/2	Yes
NX202	Address Information	1/55	Yes

Example: NX2*05*12345~

PER - Administration Communication Contact

This segment is used to identify a person or office to who administrative communications should be directed

Element	Meaning	Length (min/max)	Required?
PER01	Contact Function Code Example: "SU" = "Supplier Contact, BD" = "Buyer Name or Department", "RE" = "Receiving Contact", "CN" = "General Contact"	2/2	Yes
PER02	Name	1/60	No
PER03	Communication Number Qualifier ("TE")	2/2	No
PER04	Telephone Number	1/80	No
PER05	Communication Number Qualifier ("EM")	2/2	No
PER06	E-mail Address	1/80	No
PER05	Communication Number Qualifier ("FX")	2/2	No
PER06	Fax Number	1/80	No
PER09	Contact Description	1/20	No

Example:

PER*BD*RequisitionerName*TE*+46081234567*EM*Requisitioner@buyer.com~

3.4.2 Purchase Order Transaction – Item Details

PO1 - Baseline Item Data (Purchase Order Item Data)

This segment is mandatory and is used to specify basic and most frequently used line item data.

Element	Meaning	Length (min/max)	Required?
PO101	Alphanumeric characters assigned for differentiation within a transaction set	1/20	No

	Example: "0000000001" or "1" identifying first line item		
PO102	Quantity ordered	1/15	No
PO103	Unit of measurement Example: "EA" = "Each"	2/2	No
PO104	Unit Price per 1 item	1/17	No
PO106	Product/Service ID Qualifier ("VP" = "Vendor's / Seller's Part Number")	2/2	No
PO107	Product/Service ID (Seller's Part Number)	1/48	No
PO108	Product / Service ID Qualifier ("BP" = "Buyer's Part Number")	2/2	No
PO109	Product / Service ID (Buyer's Part Number)	1/48	No
PO110	Product/Service ID Qualifier ("MG" = "Manufacturer's Part Number")	2/2	No
PO111	Product / Service ID (Manufacturer's Part Number)	1/48	No

Example:

PO1*0000000001*1.000*EA*59.250000**VP*ALI0767000100*BP*G0248768*MG
*0767 000 100~

CTP - Pricing Information

This segment is used to specify information about the price and quantity of the products or services in the order if the PO1 segment is not sufficient due to the complexity of price and quantity information.

Element	Meaning	Length (min/max)	Required?
CTP02	Price Identifier Code. Code identifying pricing specification	3/3	No
CTP03	Unit Price. Price per unit of product, service, commodity, etc.	1/17	No
CTP04	Quantity: Numeric value of quantity which the Unit Price applies to.	1/15	No
CTP05	Composite Unit of Measure. UoM Code which the Quantity in CTP04 refers to. Example: "EA" = "Each"	2/2	No
CTP08	Monetary Amount. The total price amount of the line item.	1/18	No
CTP11	Multiple Price Quantity. Quantity of units for a given price, e.g., 3 for \$10.00.	1/2	No

Example: CTP***59.250000*1.000*EA***59.250000~

PID - Product/Item Description

The PID segment is used to describe a product or process in coded or free-form format.

Element	Meaning	Length (min/max)	Required?
PID01	Item Description Type Default: "F" = "Free Form"	1/1	Yes
PID05	Item Description	1/80	No

Example: PID*F****item description text~

MSG – Line Item Note

For additional free text information related to a line item the MSG segment is used.

Element	Meaning	Length (min/max)	Required?
MSG01	Message Text.	1/264	No

Example: MSG*line item freetext note ...~

SCH - Line Item Schedule

This segment is used to specify the data for scheduling a specific line item.

Element	Meaning	Length (min/max)	Required?
SCH01	Quantity. Quantity to be delivered on date in SCH06. The sum of these values will equal the total quantity in PO102.	1/15	Yes
SCH02	Unit of Measurement	2/2	Yes
SCH05	Date/Time Qualifier Example: "002" = "Delivery Requested"	3/3	Yes
SCH06	Date	8/8	Yes
SCH07	Time	4/8	No

Example: SCH*1.000*EA***002*20110523*000000~

AMT - Monetary Amount

This segment contains information regarding the total monetary amount per line item.

Element	Meaning	Length (min/max)	Required?
AMT01	Amount Qualifier Code Default: "1" = "Line Item Total"	1/3	Yes
AMT02	Monetary Amount. Total monetary amount of the item calculated by quantity * price.	1/18	Yes

Example: AMT*1*59.250000~

3.4.3 Purchase Order Transaction – Summary

CTT - Transaction Totals

This segment contains segment counts to allow the receiver to verify all data is received.

Element	Meaning	Length (min/max)	Required?
CTT01	Number of Line Items (Transaction Totals)	1/6	Yes

Example: CTT*2~

AMT - Monetary Amount

In the Order summary this segment contains the total monetary amount of the whole order.

Element	Meaning	Length (min/max)	Required?
AMT01	Amount Qualifier Code Default: "TT" = "Total Transaction Amount"	1/3	Yes
AMT02	Monetary Amount. Total monetary amount of all items.	1/18	Yes

Example: AMT*TT*70.580~

3.5 SE - Transaction Set Trailer

To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments). This segment represents the end of the order.

Element	Meaning	Length (min/max)	Required?
SE01	Number of Included Segments	3/3	YES
SE02	Transaction Set Control Number	4/9	YES

Example: SE*54*0001~

3.6 GE - Functional Group Trailer

This segment indicates the end of a functional group and provides control information. It ends the Functional Envelope.

Element	Meaning	Length (min/max)	Required?
GE01	Number of included Transaction Sets - This is used for message integrity, developed before such things as check sums were widely implemented	1/1	Yes
GE02	Group Control Number - Must match the group control number of the GS	9/9	Yes

Example: GE*1*266410610~

3.7 IEA - Interchange Control Trailer

This segment defines the end of an interchange of one or more functional groups and interchange-related control segments.

Element	Meaning	Length (min/max)	Required?
IEA01	Number of Included Functional Groups - This is used for message integrity, developed before such things as check sums were widely implemented	1/1	Yes
IEA02	Interchange Control Number - Must match the control number in the IEA	9/9	Yes

Example: IEA*1*267410610~

4. Example

```
ISA*00*                *00*                *01*123456789        *ZZ*SupplierID
*130706*1041*U*00401*267410610*0*T*:~
GS*PO*123456789*SupplierID*20130706*1041*266410610*X*004010~ ST*850*0001~

BEG*00*SA*Order_123x**20101123~
CUR*BY*USD~
REF*PO*Order_123x~
REF*11*AccountCode~
REF*Q1*0100997325~
CTB*OR*OrderHeader freetext note...~
N9*11*AccountCode~
N9*FI*AttachmentPurpose*Attachment~
N9*FI*FileName~ MSG*HubBroker
iPaaS-On_demand_platform_Information_Security_Policy_Rev_A_110120.pdf~
N9*FI*AttachmentDescription*N/A~
N9*FI*AttachmentLocation~
MSG*http://192.168.181.26/nova/o/doc/fb6458dd-d62e-42e7-aabb-
ebf063cfb7d0~
N9*FI*AttachmentPurpose*Attachment~
N9*FI*FileName~MSG*HubBroker iPaaS Spend Capture Cloud.pdf~
N9*FI*AttachmentLocation~
MSG*http://192.168.181.26/nova/o/doc/b1fe2fb5-cb50-45c6-b7fa-
2c2473b12bf5~
N1*BY*BuyerName1*92*1619~
N2*BuyerName2~
N3*BuyerStreet 12~
N4*BuyerCity**12345*SE~
PER*BD*RequisitionerName*TE**46081234567*EM*Requisitioner@buyer.com~
N1*SE*SellerName1*92*VendorID~
N3*SellerStreet 12~
N4*SellerCity**12345*SE~
PER*SU*SellerOrderContactName*TE**4681234567*EM*SellerOrderContact@seller.
com*FX**4681234567~
N1*ST*ShipToName1*92*8628~
N2*ShipToName2~
N3*ShipToStreet 12~
N4*ShipToCity**12345*SE~
PER*RE*GoodsReceiverName*TE**46081234567*EM*GoodsReceiver@buyer.com~
N1*BT*BillToName1*92*1619~
N2*BillToName2~
N3*BillToStreet 12~
N4*BillToCity**12345*SE~
PER*CN*BillingContactName*TE**46081234567*EM*BillingContact@buyer.com~
PO1*0000000001*1.000*EA*59.250000**VP*ALI0767000100*BP*G0248768*MG*0767
000 100~
CTP***59.250000*1.000*EA***59.250000~
PID*F***item description text~
MSG*line item freetext note ...~
SCH*1.000*EA***002*20110523*000000~
AMT*1*59.250000~
PO1*0000000002*1.000*EA*11.330000**VP*AWF144111*BP*D0148360*MG*14 41 11~
CTP***11.330000*1.000*EA***11.330000~
PID*F***item description text~
MSG*line item freetext note ...~
SCH*1.000*EA***002*20110523*000000~
AMT*1*11.330000~
CTT*2~
AMT*TT*70.580~
```


SE*54*0001~
GE*1*266410610~
IEA*1*267410610~