TRACELINK UNIVERSITY

Routing carrier instructions (X12)

The routing and carrier instructions are essential in the transportation and shipping industry, providing detailed guidelines to ensure efficient and compliant movement of goods. These instructions allow shippers to define shipping preferences, specifying transportation modes, carriers, pickup and delivery schedules, and route preferences. They also ensure supplier compliance by guiding manufacturers' upstream partners on carrier selection and shipping terms, fostering consistency in inbound logistics. Additionally, routing instructions align shipments with cost, time, and quality goals, enabling carriers and freight forwarders to plan optimal routes and capacity utilization. Compliance with regulatory requirements is another critical aspect, as instructions often detail documentation needs, labeling standards, customs procedures, and handling protocols for specific goods like hazardous materials. By incorporating elements such as carrier details, freight handling needs, billing terms, and routing guidelines, these instructions improve coordination, reduce costs, enhance service quality, and minimize logistical and regulatory errors, streamlining the entire supply chain.

Routing carrier instructions (X12)

The routing carrier instructions (X12) message provides routing and carrier instructions specific to a route.

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Contact your TraceLink Services representative for more information about integrating with this message.

- **Message Type**: MPC_ROUTING_CARRIER_INSTRUCTION
- **X12 Format**: 853
- **Transform Names**:
  - B2B_EDI_X12_853_RoutingCarrierInstruction_IB_V1
  - B2B_EDI_X12_853_RoutingCarrierInstruction_OB_V1

Guidelines

Input Element		Occurs	Length	Description	Example
ISA		1...1	–	**Required.**ISA interchange envelope.	–
	ISA01	1...1	2/2	**Required.**Authorization informaiton qualifier identifying the type of identifier in ISA02. Valid values: • 00 – No authorization information in ISA02 • 01 – UCS communications • 02– EDX • 03 – Additional identifier • 04 – Rail communication identifier • 05 – Dept of Defense (DOD) identifier • 06 – US Federal Government identifier • 07 – Truck communications identifier • 08 – Ocean communications identifier Typically this value – 00	00
	ISA02	1...1	10/10	**Required.**Authorization identifier value used for additional identification or authorization of the interchange sender or the data in the interchange. • If ISA01 = 00, this will be populated by ten spaces. • If ISA01 ≠ 00, ISA02 must be populated with an identifier padded to 10 characters, if less than 10 characters.	–
	ISA03	1...1	2/2	**Required.**Qualifier for security information in ISA04. Valid values: • 00 - No security information present. • 01 - Password. Typically this value = 00	00
	ISA04	1...1	10/10	**Required.**Security information identifying for the interchange sender or data. • If ISA03 = 00, this will be populated by ten spaces. • If ISA0 ≠ 00, ISA04 must be populated with a password that is padded to 10 characters, if less than 10 characters.	–
	ISA05	1...1	2/2	**Required.**Interchange sender partner ID qualifier. All X12 sender identifier type qualifiers in ISA05 are supported.	07
	ISA06	1...1	15/15	**Required.**ISA interchange sender identifier.	7777776067344
	ISA07	1...1	2/2	**Required.**Interchange receiver partner ID qualifier. All X12 receiver identifier type qualifiers in ISA07 are supported.	01
	ISA08	1...1	15/15	**Required.**ISA interchange receiver ID.	888888404358877
	ISA09	1...1	6/6	**Required.**Interchange date in 6 char date format YYMMDD	241215
	ISA10	1...1	4/4	**Required.**Interchange time in 4 char time format HHMM	1420
	ISA11	1...1	1/1	**Required.**The value of this element is dependent on X12 version. • 004012 – Interchange control standards identifier. Valid value is U. • 004020 and later – Repetition separator, a delimiter that separates repeated occurrences of a data element or composite data structure, which must be different from the data element separator, component separator, and segment terminator.	^
	ISA12	1...1	5/5	**Required.**Interchange control version number. This could be any X12 version beginning wiith 004012 and later. Version 004010 and earlier are not supported by this instance of the 853.	00501
	ISA13	1...1	9/9	**Required.**ISA interchange control number.	0000000000619827
	ISA14	1...1	1/1	**Required.**Interchange level acknowledgment requested. Valid values: • 0 - No acknowledgment requested. • 1 - Interchange level acknowledgment requested.	0
	ISA15	1...1	1/1	**Required.**Indicates whether the interchange is for production, test, or information purposes. Valid values: • I - Information. • P - Production data. • T - Test data.	P

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Input Element	Occurs	Length	Description	Example
ISA16	1...1	1/1	**Required.**Component element separator. Delimiter that separates data elements within a composite data structure. Must be different than the data element separator and segment terminator.	>
GS	1...*	–	GS group functional envelope. Child of ISA. Only one GS group expected per interchange.	–
GS01	1...1	2/2	**Required.**GS group function code. Valid value is RI- Routing and Carrier Instruction message X12 853	RI
GS02	1...1	2/15	**Required.**Application sender's code in the group envelope.	2222224043588
GS03	1...1	2/15	**Required.**Application receiver's code in the group envelope.	TRACELINK
GS04	1...1	8/8	**Required.**Group envelope date value in date format YYYYMMDD.	20241215
GS05	1...1	4/8	**Required.**Group envelope time value in time format HHMM or HHMMSS.	142000
GS06	1...1	1/9	**Required.**Group control identifier.	619827
GS07	1...1	1/2	**Required.**Responsible Agency Code. Valid values: • T – Transportation data coordinating committee (TDCC). • X – X12 accredited standards committee.	X
GS08	1...1	1/12	**Required.**X12 message version code. This could be any X12 version beginning with 004012. Version 004010 and earlier are not supported by this instance of the 853.	005010
ST	1...*	–	ST transaction set envelope. Child of GS group. Only one ST transaction expected.	–
ST01	1...1	3/3	**Required.**Transaction set identifier code.	853
ST02	1...1	4/9	**Required.**Transaction set ID number. Counter for each ST segment beginning with 1.	0001
BGN	1...1	–	**Required.**Routing Carrier Instruction beginning segment.	–
BGN01	1...1	2/2	**Required.**Transaction set purpose code. Valid values: • 00 – Original • 02 – Create **Required.** • 03 – Delete • 04 – Change • 05 – Replace	00
BGN02	1...1	1/80	**Required.**Identification number assigned by manufacturer or supplier that uniquely identifies the routing instruction message.	8524700258
BGN03	1...1	8/8	**Required.**Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year.	20241215
BGN04	0...1	4/8	Transaction set time expressed in 24-hour clock as follows HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD.	230406
BGN06	0...1	1/80	Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier. Mainly it is derived from Purchase Order references..BGN06 is the transaction set reference number of a previously sent transaction affected by the current transaction.	'PO852470
G62	0...10	–	Date or time.	–
G6201	0...1	2/2	Date Qualifier Valid values : • CL – Loading • 01 – Cancel after • 02 – Delivery requested by date • 07 – Effective date • 10 – Shipment requested by date • 11 – Shipment • 17 – Estimated delivery date • 70 – Current scheduled delivery date If G6201 is present, then G6202 is required or other way around.	11
G6202	0...1	8/8	Date in YYYYMMDD format.	20240228
N1	1...200	–	Business party information and identifiers.	–
N101	1...1	2/3	**Required.**Entity qualifier for the business party identifier and address information. Currently support the following partner types: • SF – Ship from Party • SU – Supplier Party • ST – Ship to party • CA – Carrier Party • BY – Buyer Party	CA
N102	0...1	1/60	Name.	Pharma customer
N103	0...1	1/2	Identifier code qualifier. Valid values: • 01 – DUNS • 09 – DUNS+4 • 11 – Drug Enforcement Agency registration number • 21 – Health Industry Number • 91 – Company identifier • 92 – Company location identifier • UL – Global Location Number	UL
N104	0...1	2/80	Business party identifier as qualified by N103 mapping to companyIdentifierValue.	3333331013655
N3	0...2	–	N3: Address: Child of business party N1 name segment.	–
N301	1...1	1/55	**Required.**Street address 1.	555 Neelan Road
N302	0...1	1/55	Street address 2.	Suite 123
N4	0...1	–	N4: Geographic Location. Child of Business Party N1 name segment.	–
N401	0...1	2/30	City name.	Sacramento
N402	0...1	2/2	State or province code. Code (Standard state/province) as defined by appropriate government agency.	CA
N403	0...1	3/15	Postal code. Code defining international postal zone code excluding punctuation and blanks.	95833
N404	0...1	2/3	Country code.	US
TD5	1...*	–	Line item loop start for routing carrier instruction TD5. Note : At least one of TD5-02, TD5-04, TD5-05, TD5-06 or TD5-12 is required.	–

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Input Element	Occurs	Length	Description	Example
TD501	0...1	1/2	Code identifying sequence of carriers in shipment, beginning with the original carrier. Valid values: • 0 – Original carrier • 1 – First carrier after original • 2 – Second carrier after original • 3 – Third carrier after original • 4 – Fourth carrier after original • 5 – Fifth carrier after original	0
TD502	0...1	1/2	Company Identifier type for the party in routing carrier instruction message. Valid values: • 01 – DUNS • 09 – DUNS+4 • 11 – Drug Enforcement Agency registration number • 21 – Health Industry Number • 91 – Company identifier • 92 – Company location identifier • UL – Global Location Number If TD502 is present, TD503 is required.	SCAC
TD503	0...1	2/80	Company identifier value for business party in shipment stage.	12323
TD504	0...1	1/2	Transportation method type. **Valid values:** • A - Air • AE - Air express • AF - Air frieght • H - To be picked up customer • J - Truck • L - Contract carrier • LT - Less than truckload • M - Motor (Common Carrier) • O - Container by ship • R - Shipped by train • S - Sea • SR - Supplier truck • X - Piggy back transport, ie trailer on train • ZZ - Custom agreed transport	A
TD505	0...1	1/35	Routing, Free-form description of the routing or requested routing for shipment, or the originating carrier's identity.	descriptive info
TD507	0...1	1/2	Code identifying the type of location for the routing stage of the shipment. **Valid values:** • 19 – Code identifying route of shipment. • 39 – Location direction. • 93 – Sender's location code. • 94 – Receiver's location code. • AC – City and state or province of location. • C – Consignor for shipment. • CA – Country of origin for shipment. • CC – Country Code. • CI – City of location. • CV – Location county or parish. • DC – Distribution center identifier for location. • DE – Destination identifier. • DL – Delivery location identifier. • KE – Port of embarkation. • KL – Port of loading. • OR – Origin of shipment - shipping point. • OV – On board vessel. • PA – Port of arrival. • PB – Port of discharge. • PD – Place of delivery. • PE – Port of entry. • PL – Location is a plant. • RG – Region code. • SG – Storage location. • SP – State or province of location or State or Province • .TM – Terminal location. • VS – Vessel stowage location. • WH – Warehouse location. If TD507 is present, TD508 is required.	DL
TD508	0...1	1/30	Location identifier- Identifier of the location for the routing stage of the shipment.	–
TD510	0...1	2/2	Code identifying the type of location for the routing stage of the shipment. Valid values: • AA – Air hours • AD – Air days • CD – Calender days • CW – Calender weeks • HO – Hours • WD – Working days • ZZ – Custom If TD510 is present, TD511 is required.	AA
TD511	0...1	1/4	Transit time - The numeric amount of transit time defined by carrier transit time type.	–
TD3	0...12	–	Segment to specify details about the carrier's equipment that will ship the delivery	–
TD301	0...1	2/2	Type of equipment used in delivery. Valid values: • AP - Aircraft • CN - Container • RR - Railcar • TA - Trailer • VT - Ship One of TD301 or TD310 can be present, not both.	AP

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Input Element	Occurs	Length	Description	Example
TD302	0...1	1/4	Equipment prefix or alphabetic part of an equipment unit's identifying number. If TD302 is present, then TD303 is required.	AP
TD303	0...1	1/15	Equipment number - Sequencing or serial part of an equipment unit's identifying number.	121
TD308	0...1	2/2	Seal status code - indicating condition of door seal upon arrival. Valid values: • 01 – Intact • 02 – Broken • 03 – Missing • 04 – Replaced	01
TD309	0...1	2/15	Seal number - Unique number on seal used to close a shipment.	SP1231232
TD310	0...1	4/4	Equipment Type - Equipment size and type description code.	–
MEA	0...40	–	To indicate physical measurements for shipment, including weights, dimensions, tolerances, variances, and weights.	–
MEA01	0...1	2/2	Measurement Reference ID code.	–
MEA02	0...1	1/3	Measurement qualifier - Code identifying a measurement type for a measurement value. Valid values: • DP – Depth • HT – Height • LN – Length • VOL – Volume • WD – Width • WT – Weight •	DP
MEA03	0...1	1/20	Measurement value - The value of the measurement. At least one of MEA03, MEA05, MEA06 or MEA08 is required.	12324

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Input Element	Occurs	Length	Description	Example
MEA04.1	0...1	2/2	Marks and numbers used to identify a shipment or parts of a shipment. MEA04.1 defines the unit of measure for MEA03, MEA05, and MEA06. **Valid values** • 02 – Statute Mile • 4G – Microliter • AM – Ampoule • AV – Capsule • BD – Bundle • BG – Bag • BO – Bottle • BX – Box • C3 – Centiliter • CA – Case • CC – Cubic Centimeter • CF – Cubic Feet • CG – Card Blister • CH – Container • CI – Cubic Inches • CL – Cylinder • CM – Centimeter • CN – Can • CP – Crate • CQ – Cartridge • CR – Cubic Meters • CT – Carton • DA – Day • DI – Dispenser • DK – Kilometers • DL – Deciliter • DM – Decimeter • DQ – Cubic decimeters • DR – Drum • DS – Display • DZ – Dozen • EA – Each • FO – US Fluid Ounce • FT – Foot • GA – US Gallon • GL – Gram/Liter • GR – Gram • GS – Gross • H4 – Hectoliter • HF – Hundred Feet • HR – Hours • IN – Inch • K6 – Kiloliters • KG – Kilogram • KT – Kit • LB – US Pound • LF – Linear Foot • LO – Lot (unit of procurement) • LT – Liter • LY – Linear Yard • MC – Microgram • ME – Milligram • ML – Milliliter • MM – Millimeter • MO – Months • 01 – Cubic millimeter • MR – Meter • OZ – Ounce • P1 – Percent • PC – Piece • PF – Pallet • PH – Pack • PK – Package • PR – Pair • PT – Pint • QT – Quart • RL – Roll • SC – Square Centimeter • SF – Square Foot • SH – Sheet • SI – Square Inch • SM – Square Meter • SP – Self Package • ST – Set • SY – Square Yard • SZ – Syringe • T3 – Thousand Pieces • TB – Tube • TH – Thousands • TN – Tonne • TS – Thousands • TY – Tray • U2 – Tablet • UM – Million • UN – Unit • US – Dosage Form • V2 – Pouch • VI – Vial • WK – Week • YD – Yard • YR – Years	CA

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Input Element	Occurs	Length	Description	Example
FK	0...1	–	Segment to explain the route and indicate individual carrier divisions or factors.	–
FK01	1...1	2/4	**Required.**Factor carrier Standard Carrier Alpha Code (SCAC).	SC
FK02	1...1	1/2	**Required.**Transportation method type. **Valid values:** • A - Air • AE - Air express • AF - Air frieght • H - To be picked up customer • J - Truck • L - Contract carrier • LT - Less than truckload • M - Motor (Common Carrier) • O - Container by ship • R - Shipped by train • S - Sea • SR - Supplier truck • X - Piggy back transport, ie trailer on train • ZZ - Custom agreed transport	7
FK03	0...1	2/2	State or province code. Code (Standard state/province) as defined by appropriate government agency. Only one of FK03 or FK05 can be present, not both. If FK03 or FK04 is present, then other is required.	CA
FK04	0...1	2/30	City name.	CA
FK05	0...1	1/5	Code indicating railroad interchange locations.	–
FK06	0...1	1/5	Percentage Division - The portion of freight revenue to be apportioned to an identified carrier, expressed as a percent, which shall not exceed 100.00.	90.15
FK07	0...1	1/15	Factor amount - A number that indicates the portion of freight rate revenue to be apportioned to an identified carrier.	90
G62	0...10	–	Date/Time :Dates relevant for routing and carrier instruction at item.	–
G6201	0...1	2/2	Date type at header level for Routing and carrier Instruction in date format YYYYMMDD and time format (IDoc, X12) HHMMSS. Valid values: • 07 – Effective • 01 – Cancel after • 02 – Delivery requested • 10 – Shipment requested • 17 – Estimated delivery • 70 – Scheduled delivery If G6201 or G6202 is present, then other is required.	10
G6202	0...1	8/8	Date in YYYYMMDD format.	20240228
N1	0...200	–	Business party Information and identifiers.	–
N101	1...1	2/3	**Required.**Entity qualifier for business party identifier and address information. Currently support the following partner types: • SF – Ship from Party • SU – Supplier Party • ST – Ship to party • CA – Carrier Party • BY – Buyer Party	CA
N102	0...1	1/60	Name.	Pharma customer
N103	0...1	1/2	Identifier code qualifier. Valid values: • 01 – DUNS • 09 – DUNS+4 • 11 – Drug Enforcement Agency registration number • 21 – Health Industry Number • 91 – Company identifier • 92 – Company location identifier • UL – Global Location Number	UL
N104	0...1	2/80	Carrier party identifier as qualified by N103 mapping to companyIdentifierValue.	3333331013655
N3	0...2	–	N3: Address: Child of N1 name segment.	–
N301	1...1	1/55	**Required.**Street address 1.	555 Neelan Road
N302	0...1	1/55	Street address 2.	Suite 123
N4	0...1	–	N4: Geographic Location. Child of N1 name segment.	–
N401	0...1	2/30	City name.	Sacramento
N402	0...1	2/2	State or province code. Code (Standard state/province) as defined by appropriate government agency.	CA
N403	0...1	3/15	Postal code. Code defining international postal zone code excluding punctuation and blanks.	95833
N404	0...1	2/3	Country code.	US
CTT	1...1	–	**Required.**CTT-Transaction Totals.	–
CTT01	1...1	1/6	**Required.**Total number of line items in the transaction set.	15
SE	1...1	–	**Required.**ST ... SE transaction set trailer envelope. Child of GS group. Only one ST transaction expected.	–
SE01	1...1	1/10	**Required.**Total count of segments in ST ... SE transaction set including ST and SE segments.	10
SE02	1...1	4/9	**Required.**Transaction set control number.	0001
GE	1...1	–	**Required.**GS ... GE functional group trailer envelope. Child of ISA interchange. Only one GS group expected.	–
GE01	1...1	1/6	**Required.**Number of transaction sets in functional group.	5
GE02	1...1	1/9	**Required.**Functional group control number.	619827
IEA	1...1	–	**Required.**ISA ... IEA interchange control trailer envelope. Only one interchange expected per transmission.	–
IEA01	1...1	1/5	**Required.**Number of functional groups in interchange.	1
IEA02	1...1	9/9	**Required.**Interchange control number.	0000000000619827

Example

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```
ISA*00* *00* *16*SENDER1 *14*RECEIVER1
*241120*1256*^*00501*000619827*1*T*>
GS*QM*2222224043588*TRACELINK*20241120*111740*619827*X*005010
ST*853*0001
BGN*00*8524700258*20241120*111740*UT****
G62*11*20241120**
N1*CA*CA_Name*1*3333331013655
N3*CA_Address1*CA_Address2
N4*CA_City*CA*CA_PostalCd*US
N1*BY*BY_Name*9*3333331013655
N3*BY_Address1*BY_Address2
N4*BY_City*BY*BY_PostalCd*US
N1*SU*SU_Name*11*3333331013655
N3*SU_Address1*SU_Address2
N4*SU_City*SU*SU_PostalCd*US
N1*SF*SF_Name*21*3333331013655
N3*SF_Address1*SF_Address2
N4*SF_City*SF*SF_PostalCd*US
N1*ST*ST_Name*91*3333331013655
N3*ST_Address1*ST_Address2
N4*ST_City*ST*ST_PostalCd*US
TD5*O*92*12323*A*descriptive info**DL*11111**AA*20*U5***
TD3*AP*AP*121*****01*SP1231232*ECd1
MEA**WT*12324*GR********
FK*SC*7*CA*CA**9015*90*******
G62*07*20241120**
N1*CA*CA_Name*92*3333331013655
N3*CA_Address1*CA_Address2
N4*CA_City*CA*CA_PostalCd*US
N1*BY*BY_Name*UL*3333331013655
N3*BY_Address1*BY_Address2
N4*BY_City*BY*BY_PostalCd*US
N1*SU*SU_Name*PI*3333331013655
N3*SU_Address1*SU_Address2
N4*SU_City*SU*SU_PostalCd*US
N1*SF*SF_Name*PP*3333331013655
N3*SF_Address1*SF_Address2
N4*SF_City*SF*SF_PostalCd*US
N1*ST*ST_Name*91*3333331013655
N3*ST_Address1*ST_Address2
N4*ST_City*ST*ST_PostalCd*US
CTT*150
SE*151*s152
GE*153*154
IEA*155*s156sssss
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