

# CTA Series

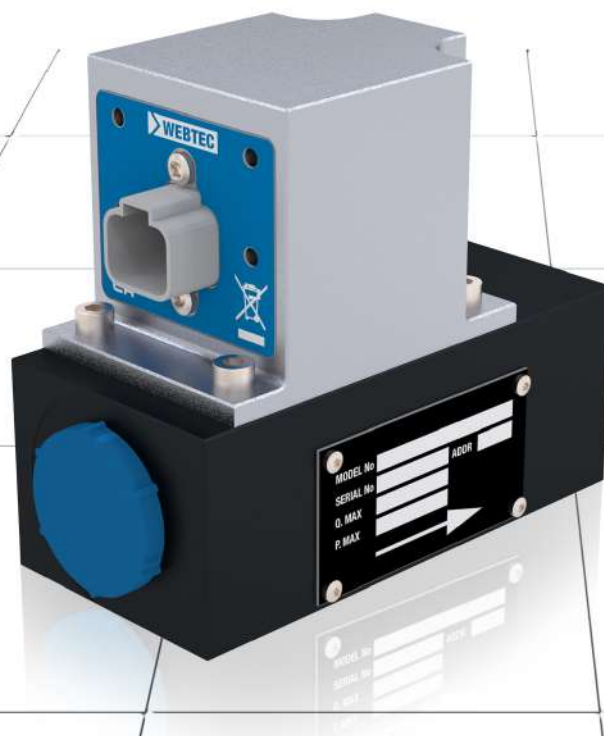
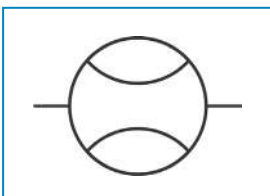
## Automotive Ready Hydraulic System Flow Monitor with J1939 Interface

Rugged, resilient hydraulic oil flow and temperature monitors designed for permanent installation in mobile machinery.

Ideal for on and off-highway machinery to monitor hydraulic system performance. Suitable for closed loop control, real-time diagnostics, safety interlocks and inclusion in predictive maintenance / IoT systems to reduce down-time or enable autonomous vehicle operation.

Designed to meet the standards for components fitted to heavy duty vehicle applications, the meters have a J1939 CAN-bus interface for easy integration.

### Symbol:



Make it **BLUE**

### Features

- Flows from 3-300 L/min, 0.8-80 US gpm
- Pressure: up to 420 bar, 6000 psi
- Output: J1939 reporting flow and temperature
- Calibration: 21cSt as standard, other viscosities possible
- Deutsch automotive connector
- Ingress protection: IP69K
- Tested to SAE J1455, ISO 11451, CISPR 25 and SAE J1113-13

MODEL NO.	PORTS	FLOW RANGE	MAX PRESS
CTA060-J19-S-6	1-1/16"-12UN #12 SAE ORB	3-60 L/min, 0.8-16 US gpm	420 bar, 6000 psi.
CTA150-J19-S-6	1-1/16"-12UN #12 SAE ORB	5-150 L/min, 1.3-40 US gpm	420 bar, 6000 psi
CTA300-J19-S-6	1-5/16"-12UN #16SAE ORB	8-300 L/min, 2-80 US gpm	420 bar, 6000 psi

"NB. Engineering units for these models are US gpm and °F"

Contact your sales office to discuss any project specific requirements such as different porting, flow rates and engineering units.

### Functional Specification

Ambient Temperature: -4 to 185°F (-20 to 85°C)

Fluid temperature: -4 to 194°F (-20 to 90°C)

Fluid type: Hydraulic mineral oil (21 cSt)

Accuracy: better than 1% FS

Temperature: ±2°F (±1°C)

Repeatability: better than ±0.2%

### Electrical Specification

Interface: SAE J1939 compatible

CAN-bus baud rate: 250KHz

Supply voltage Vs: 8-28VDC

Current: 14mA @12v, 8mA @24v

### Protection

Ingress Protection: IP69K

EMC/ESD protection: SAE J1113-21 (ISO 11451-2)

ISO 11452-10

CISPR 25-6

ISO 11452-8

SAE J1113-11 (ISO7637-2)

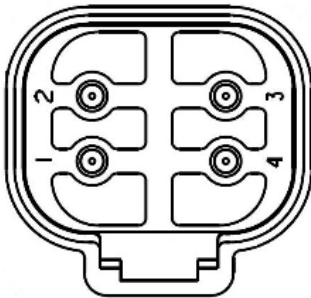
SAE 113-12 (ISO 7637-3)

SAE J1113-13 (ISO 10605)

Designed for all criteria under SAE J1455

### Connections

Four pole automotive Deutsch compatible, type DT15 male



Pin1 = 8 to 40v

Pin2 = 0v

Pin3 = CANH

Pin4 = CANL

### CTA300-J19-S-6 communication parameters

PARAMETER GROUP	VALUE	DESCRIPTION
Transmission rate:	50ms	
Data length	8 bytes	
Data page	0	
PDU format	0xFF	Broadcast
PDU specific	0x13**	
Default priority	6	
Parameter Group Number (PGN)	0xFF13**	
Suspect Parameter Number (SPN)	1 = flow, 2 = temperature	
Source Address	Default: 0x85	Customer specified

DATA FIELD (EXAMPLE FOR CTA300-J19-S-6)		
Byte D0 Bits 8-1	LSB flow. Bit position 1	Unsigned integer – little Endian. Scale multiplier 0.1**
Byte D1 Bits 8-1	MSB flow.	
Byte D2 Bits 8-1	Temperature. Bit position 1	0 to 248°F, 0 to 120°C
Byte D3 Bits 8-1	0 = Normal, 2 = Overflow	Flow status
Byte D4 Bits 8-1	0x04 (CTA300)	Flow meter family**
Byte D5 Bits 8-1	0x01 (US gpm & °F)	Engineering units**
Byte D6 Bits 8-1	0x00	
Byte D7 Bits 8-1	0x32	50

**Note:** other PGNs, addresses, flow ranges and engineering units are available.

\*\* These values vary by model - contact sales for full data sheet.

### Construction:

Flow body: Anodised high tensile Aluminium 2014A

Internal parts: Aluminium, Steel, Stainless Steel.

Electronics housing: Painted die-cast aluminium

Seals: FKM seals as standard, EPDM are available - please consult sales office.

### Operation

Fluid passes between the connection ports and rotates a turbine. The turbine frequency is used to calculate flow while temperature is recorded from the tip of the transducer.

### Installation

The flow monitor can be mounted in any orientation.

If the flow monitor is close to a sharp bend, particularly at the input, unexpected flow readings may occur.

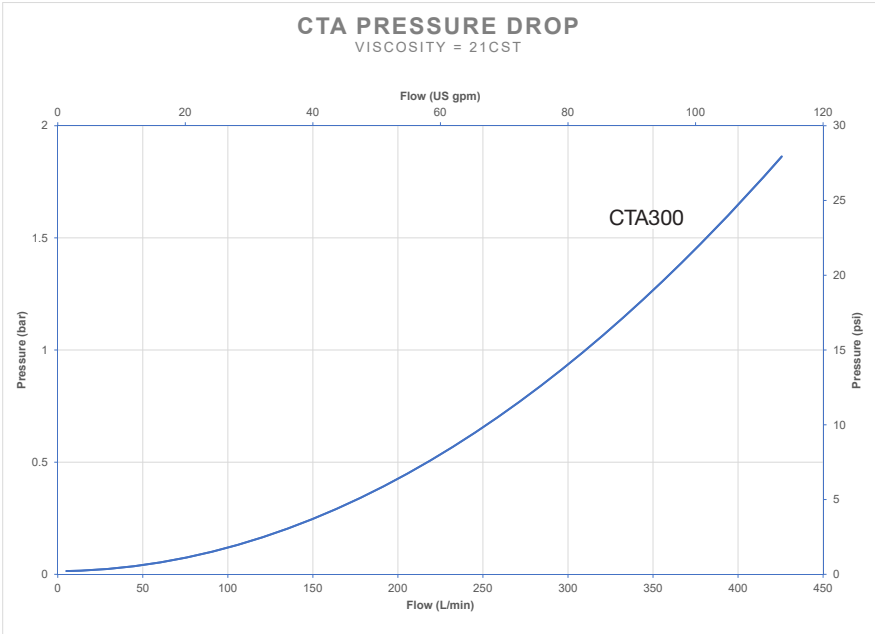
Refrain from locating the flow monitor close to the source of pulsating flows such as certain piston pumps.

For EMC the flow monitor should be bonded to the vehicle chassis either through metal pipe-work or a bonding strap.

There are other factors to consider when locating a flow monitor for optimum performance and you are invited to discuss your specific application with the experienced Webtec Engineers.

### Filtration

The hydraulic installation should have adequate filtration to maintain oil cleanliness levels to better than DIN ISO 4406: 19/16/13 or NAS 1638: 7. This is typically achieved with 10-micron system filtration.



**Dimensions in mm (inches)**

