



# Standard Internally Gaged 12-Point Cap Screws, SDH Series

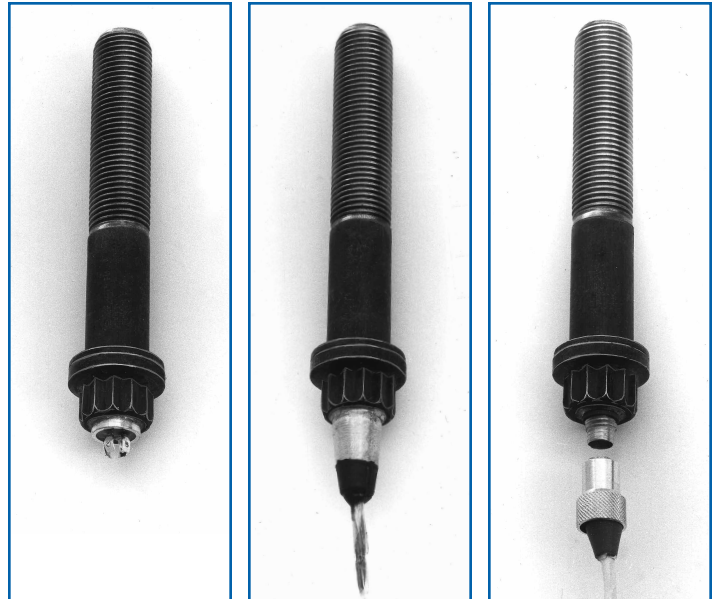
Steel Alloy

*To measure accurate  
preload, service load  
and overload of bolted  
assemblies*

*For maximum uniformity,  
efficiency and reliability  
in bolted assemblies*

*For effective research,  
testing and manufacturing  
of bolted assemblies*

*(Ferry Cap Counter-Bored Screws  
interchangeable with most Socket  
Head Cap Screws)*



U.S. Patent No. 2,873,341

## MECHANICAL SPECIFICATIONS

<b>Material</b>	SAE 4140
<b>Hardness</b>	Rockwell C37 to C43
<b>Ultimate Tensile Strength</b>	170,000 psi Minimum
<b>Threads</b>	Class 3A, rolled to 1" dia.; Class 2A, rolled 1-1/8" dia. & larger.
<b>Finish</b>	Black Satin Finish

## ELECTRICAL SPECIFICATIONS

ITEM	CHARACTERISTIC
<b>Gages Type</b>	Metal Foil
<b>Gage Factor</b>	2.00
<b>Service Temperature</b>	150°F or 300°F
<b>Non-Linearity</b>	±1% of Allowable Load
<b>Non-Repetition</b>	±0.1% F.S.
<b>Bridge Resistance</b>	350 or 120 Ohms (Nominal)
<b>Configuration</b>	Quarter-Bridge (QB) or Full-Bridge (FB)
<b>Output Signal (nominal, at allowable load)</b>	FB: 3.5 mv/V QB: 1.4 mv/V
<b>Excitation</b>	350-ohm FB: 12V (Maximum) 350-ohm QB: 6V (Maximum) 120-ohm FB: 3V (Maximum)

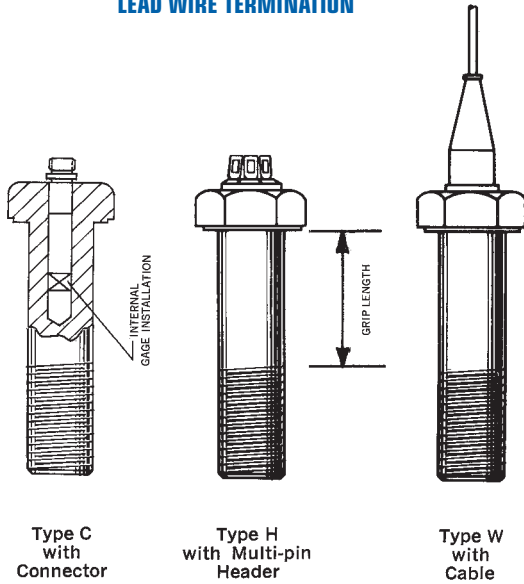
## ALLOWABLE LOADS

Allowable loads for Strainert 12-Point Cap Screws, as tabulated below, are based on approximately 70% Yield Strength of the threads, in pounds.

SCREW DIA.	LOAD CAPACITY LBS.	
	FINE THREADS	COARSE THREADS
1/4	2,700	2,700
5/16	5,400	4,800
3/8	8,200	7,200
7/16	11,000	10,000
1/2	15,000	14,000
5/8	25,000	22,000
3/4	36,000	32,000
7/8	50,000	44,000
1	67,000	59,000
1-1/8	–	74,000
1-1/4	–	92,000
1-1/2	–	136,000

Each cap screw is calibrated to above indicated load as part of quality control procedure. See calibration section for additional calibration certification.

**LEAD WIRE TERMINATION**



Type C – screw type miniature connector, requires mating cable assembly.

Type H – a multi-pin header for soldered lead wire connections

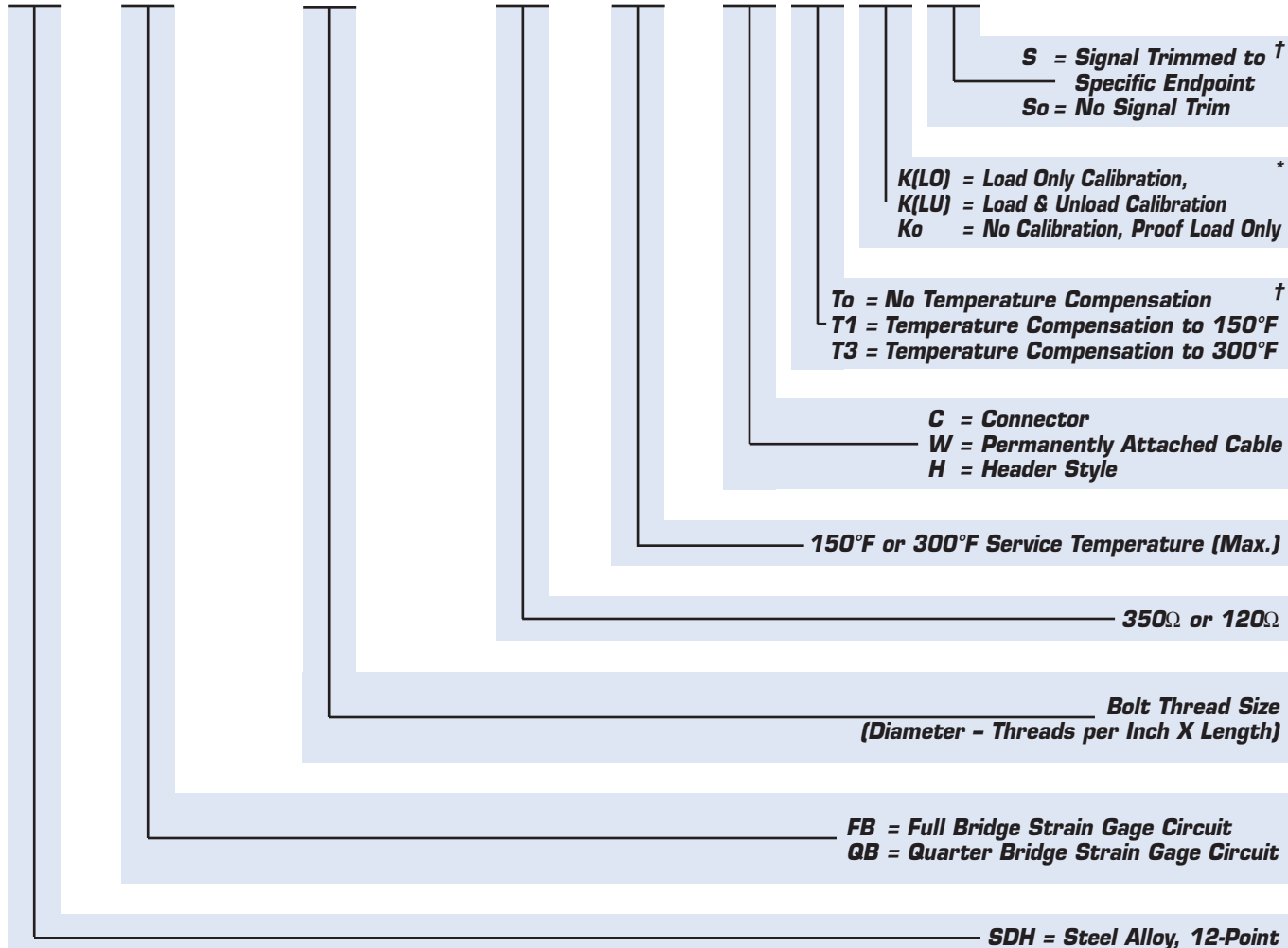
Type W – factory installed cable

Over 130 different STRAINsert 12-Point Cap Screws are stocked, ready for gaging.

U.S. Patent #2,873,341

**ORDERING INFORMATION**

**SDH - FB 1/2-13NCx4 (350Ω / 300°F) C T3 K(LO) So**



**S** = Signal Trimmed to †  
**Specific Endpoint**  
**So** = No Signal Trim

**K(LO)** = Load Only Calibration, \*  
**K(LU)** = Load & Unload Calibration  
**Ko** = No Calibration, Proof Load Only

**To** = No Temperature Compensation †  
**T1** = Temperature Compensation to 150°F  
**T3** = Temperature Compensation to 300°F

**C** = Connector  
**W** = Permanently Attached Cable  
**H** = Header Style

**150°F or 300°F Service Temperature (Max.)**

**350Ω or 120Ω**

**Bolt Thread Size (Diameter - Threads per Inch X Length)**

**FB** = Full Bridge Strain Gage Circuit  
**QB** = Quarter Bridge Strain Gage Circuit

**SDH** = Steel Alloy, 12-Point

\* See Strainsert Calibration Services (Page 94)

† Not Available for Quarter-Bridge Bolts.